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ABSTRACT

This report contains statistical data from the Annual Survey of Scientific and Engineering Expenditures at Universities and Colleges, FY 1982. The data represent science and engineering (SE) expenditures for separately budgeted research and development (R&D). The phrase "separately budgeted R&D expenditures" refers to current fund expenditures designed to produce specific research outcomes and are sponsored either by an external agency to an institution or are separately budgeted by an internal unit of an institution. The data are presented in 71 tables under such major headings as: separately budgeted R&D expenditures (by year and source of funds and by year and character of work, fiscal years 1953-1982); summary of separately budgeted R&D expenditures by sources of funds, character of work, and SE field; R&D expenditures classified by institutional category (including those at historically black colleges) by source of funds, character of work, and SE field; geographic distribution of separately budgeted R&D expenditures; R&D expenditures by individual SE field and selected subfields in descending order of amounts, by institutions; capital expenditures for facilities and equipment for research, development, and instruction; and R&D expenditures at university administered federally funded R&D centers by character of work and SE field. Technical notes and survey instruments used are included. (JN)

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(See inside back cover for Other Science Resources Publications.)

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To obtain accurate historical data, use only the latest detailed statistical tables for FY 1982 (NSF 84-308) and not data published earlier. Institutions revise prior-year data when important changes occur in reporting practices and program classifications, and only the latest tables incorporate such changes.

general notes

This report contains tabular data compiled from the National Science Foundation's (NSF's) annual Survey of Scientific and Engineering Expenditures at Universities and Colleges, FY 1982. The analyses of results of this survey are published in a *Science Resources Studies Highlights* (NSF 84-305).

These data refer to science and engineering (S/E) expenditures for separately budgeted research and development. Terms used in institutional accounting procedures are incorporated throughout the tables.

The term "separately budgeted research and development (R&D) expenditures" refers to current fund expenditures designed to produce specific research outcomes and are sponsored either by an external agency to an institution, or are separately budgeted by an internal unit of an institution. The term "expenditures" differs from the Federal accounting term "obligations." Expenditures are funds actually spent by an institution during its fiscal year; obligations are funds designated for the reporting institution during the Federal fiscal year, regardless of when the recipient institution may actually spend the funds. Capital expenditures for S/E facilities and equipment for research, development, and instruction are reported separately from research equipment purchased under separately budgeted project awards. Capital expenditures for R&D equipment may include fixed or movable furnishings and scientific equipment, facilities ancillary or integral to R&D efforts, or special separate facilities to house S/E apparatus. Such expenditures may also refer to any article of nonexpendable tangible personal property having a useful life of more than two years and an acquisition cost of $500 or more per unit, as described in Office of Management and Budget (OMB) Circular A-21, revised June 1982. Separately budgeted R&D equipment purchased from current funds includes all research equipment purchased under sponsored research project awards.

Federally funded research and development centers (FFRDC's) are R&D-performing organizations exclusively or substantially financed by the Federal Government that are supported by the Federal Government either to meet a particular R&D objective or, in some instances, to provide major facilities at universities for research and associated training purposes.

The category "doctorate-granting institutions" refers to two groupings of universities. The first is based on the conventional degree-level distinction—doctorate, master's, bachelor's, and no S/E degree. Most of the data on doctorate-granting institutions shown in this report are distributed according to this conventional classification system. A second system developed by the National Center for Education Statistics (NCES) uses the "doctorate-granting institutions" category in reference to institutions characterized by a significant emphasis on doctorate-level education, as measured by the number of doctorate recipients and by the diversity in doctorate-program offerings. The number of institutions included under the conventional "doctorate-granting" category is 326; the number included under the NCES category is 165.

Four additional categories of institutions appear in the NCES classification system: "Comprehensive," "general baccalaureate," "professional and specialized," and "2-year." "Comprehensive" institutions are characterized by a strong, diverse post-baccalaureate program but are not typically involved in doctorate-level education. "General baccalaureate" institutions are primarily engaged in general undergraduate, baccalaureate education. "Professional and specialized" institutions may be baccalaureate or postbaccalaureate and are characterized by a significant level of specialization in one area, usually a professional field such as business or engineering. "Professional and specialized" schools are listed as one of the following: Dentistry; medical; other health; engineering; business and management; art, music and design; law; education; U.S. service; and other specialized or professional. "Two-year" institutions confer over three-fourths of their degrees for two years of study.

The terms "imputation" and "imputed data" refer to the computerized process of developing estimates of data that were not furnished by the institutions concerned when statistics were requested. This process develops estimates based primarily on key data items reported in prior-years' surveys when available; when not available, estimates were based on figures derived according to peer respondent institutions' characteristics, which in turn are based on highest degree granted and type of institutional control—public or private. Corresponding items are increased or decreased to reflect similar growth or shrinkage reported by peer institutions. In this publication the letter "I" is used to identify imputed data and the letter "E" is used when respondent institutions indicated that their data were estimated or when data required slight adjustments to distribute evenly.

Data from the current-year's tables should be used in reviewing historical information in this survey. Data presented in trend tables are assembled from the most recently completed survey cycle. Since prior-years' data are reviewed for consistency with current-year's responses and, when necessary, revised in consultation with institutional respondents, references to prior-years' data should be restricted to this document.

Response to this survey is entirely voluntary. Requests for additional information concerning the survey findings for the current or prior surveys should be directed to Ms. Judith F. Coakley or Mrs. Marge Machen at the following address:

Universities and Nonprofit Institutions Studies Group
Division of Science Resources Studies
National Science Foundation
Washington, D.C. 20550
(202) 634-4673

section a

technical notes

the universe

The universe for this survey includes 563 institutions in the United States and outlying areas having science and engineering (S/E) academic programs that offer a doctorate or a master's degree in those fields, as well as those schools with $50,000 or more in separately budgeted research and development (R&D) expenditures. In addition, the universe includes 19 federally funded research and development centers (FFRDC's). To qualify as a unit in this category, the FFRDC must be engaged in basic or applied research, development, or management of R&D activities and must be monitored directly by the Federal Government, usually a single agency, in a relationship expected to be maintained on a long-term basis. It must operate separately from its administrative organization or be incorporated separately. With an average annual budget of at least $500,000 for operating expenses and capital equipment, 70 percent of which is Federal support, the center's facilities are owned or funded under contract by the Federal Government. Data from the 19 FFRDC's are presented separately in this report. Copies of both institutional and FFRDC survey forms (NSF form 411) used in the 1982 survey are included in section D, presenting survey results in aggregate form.

The survey population was reviewed prior to the mailout of the questionnaires to ensure that each institutional classification was accurate. Characteristics of the schools were reviewed before and during the course of the survey to determine if changes had occurred (i.e., reviewed for changes in highest degree granted or for school openings, closings, or mergers). Names of institutions newly added to the *Education Directory, Colleges and Universities, 1981-82 and 1982-83 Supplement*[1] were reviewed to determine their eligibility for inclusion in this survey.

the survey instrument

The questionnaire used in the fiscal year (FY) 1982 survey was virtually unchanged from that used in prior years except for reversing the order of items 3 and 4. Current fund expenditures in each S/E field for research equipment purchased under sponsored research project awards are a subset of total and federally financed separately budgeted research and development reported in items 1 and 2. Therefore, to assist respondents in completing this portion of the questionnaire, the research equipment section was changed to item 3 and capital expenditures for facilities and equipment for research, development, and instruction moved to item 4. A "crosswalk" now a standard part of the survey package was added in 1981 to assist respondents in matching the S/E fields requested in the expenditures survey with the field codes devised by the National Center for Education Statistics (NCES) of the Department of Education. The NCES field codes are published in *A Classification of Instructional Programs* (NCES 81-323). To complete this survey, most institutions have incorporated the essential information into their recordkeeping systems, thereby ensuring a consistent format from one year to the next. Such consistency yields more useful statistics over time. As a rule, information to complete this instrument is found within the institution's year-end accounting records.

The survey questionnaire consisted of four main items:

Item 1 requested institutions to report their total current expenditures for separately budgeted S/E research and development by source of funds and to indicate the percentage of the total and the federally financed portion that is considered basic research. Care

[1] Department of Education, National Center for Education Statistics, *Education Directory, Colleges and Universities, 1981-82* (NCES 82-306) and 1982-83 Supplement (NCES 83-331) (Washington, D.C.: Supt. of Documents, U.S. Government Printing Office.)

should be observed when interpreting data on sources of funds; for example, industry R&D support is limited to grants and contracts for R&D activities from profitmaking organizations, but the total reported excludes research funded through unrestricted accounts and from corporate foundations, endowments, and fellowships to students. (Further information on academic research and development supported by industry may be obtained from the 14th annual National Science Board report.)[2]

Item 2 asked for total and federally financed current fund expenditures for separately budgeted R&D activities, by detailed S/E fields. Data in subdisciplines of engineering and environmental sciences, which were requested on an optional basis in 1980, became a standard part of the 1981 survey form. By refining the data on these two disciplines, the results can be integrated with the findings from several other National Science Foundation (NSF) surveys of academic resources where data on these detailed fields have been collected routinely.

Item 3 requested institutions to report total and federally financed current fund research equipment expenditures included in their separately budgeted R&D expenditures and disbursed in the same detailed disciplines as in item 2. These data are of special interest to Federal policymakers in determining current funding levels for scientific instrumentation. In recent years, reports concerning academic instrumentation shortages and obsolescence were based largely on anecdotal information. In an effort to obtain well-grounded data on the extent of research equipment expenditures, item 3 was added as an optional item to the R&D expenditures survey in 1979. By 1982, survey respondents at most institutions had indicated their ability to provide item 3 data readily, since their recordkeeping systems were being refined in response to Office of Management and Budget (OMB) Circular A-21, revised; therefore, item 3 has become a standard part of the survey instrument.

Item 4 sought data on capital expenditures for S/E facilities and equipment for research, development, and instruction by broad S/E fields, showing amounts from Federal and other sources. By including both capital expenditures and current fund expenditures of S/E funds devoted to R&D activities, the survey provides a comprehensive reporting of such activity at each institution in the survey. This is an important component of statistical information needed by financial and budgetary decisionmakers in policy analyses.

In the interest of improving the data quality and as an aid to institutional personnel who are responsible for completing the NSF survey questionnaire, 1-day workshops are held periodically in various geographic locations to discuss both the survey forms and how best to gather information from institutions' accounting and/or budgetary systems. These workshops, sponsored by volunteer respondent institutions or professional societies, are conducted by NSF personnel assisted by institutional experts experienced in survey completion. Additional suggestions are taken under advisement throughout the year from survey respondents in order to improve understanding and the utility of their data.

the response rate

The survey questionnaires were mailed in December 1982. By the survey closeout date in late June 1983, 456 completed forms had been received from universities and/or colleges out of the original universe of 563, an 81 percent response rate; completed forms were received from all 19 FFRDC's. (Table A-1 shows the distribution of institutional responses by degree level.) Response rates for the bachelor's degree-granting institutions are included with totals from 2-year and other institutions that do not award an S/E degree. The highest response rate, 91 percent, was from doctorate-granting institutions, where 98 percent of the R&D expenditures in S/E fields were disbursed. The 1982 institutional response rate was 5 percentage points below that of the 1981 survey. Response rates of institutions granting a doctorate degree remained the same as in 1981; responses from master's and undergraduate institutions dropped by 11 and 14 percentage points, respectively. The majority of respondent institutions, however, were schools with the largest R&D programs, so the effect of the lowered response rate is considered minimal.

Table A-1. R&D expenditures survey response rates by type of institution: FY 1982

Highest degree granted	Number surveyed	Number of respondents	Percent of total
Total	563	456	81.0
Doctorate	325	297	91.4
Master's	173	120	69.4
Bachelor's and no science/ engineering degree	65	39	60.0

SOURCE: National Science Foundation

In order to provide national totals for academic R&D expenditures, it was necessary to develop estimates for the approximately 19 percent of the survey population that did not respond. This process, referred to as "imputation," has been used consistently since 1976. The combined imputed and estimated amounts totalled $442 million for academic R&D expenditures, or only 6 percent of the $7.3 billion universe total, as shown in table A-2. This represented a slightly higher imputation rate than the 1981 rate of 5 percent. However, even though the imputation/estimation rates increased in 1982 and the overall institutional response rate fell, R&D expenditures

Table A-2. R&D expenditures survey imputed and estimated amounts by type of institution: FY 1982

[Dollars in millions]

Highest degree granted	Separately budgeted R&D expenditures	Amount imputed and/or estimated	Percent of total
Total	$7,261	$442	6.1
Doctorate	7,134	408	5.7
Master's	103	24	23.3
Bachelor's and no science/ engineering degree	24	10	41.7

SOURCE: National Science Foundation

[2] See National Science Board's 14th annual report, *University/Industry Research Relationships: Myths, Realities, and Potentials* (Washington, D.C.: Supt. of Documents, U.S. Government Printing Office, 1983).

reported by those institutions that did respond represented the preponderance of the R&D expenditures grand total.

Table A-3 presents imputed and estimated rates for nonresponse in the 1982 survey in the broad S/E disciplines. The dollar amount imputed or estimated is displayed along with the percentage it represents of all institutional totals in a particular discipline. The highest imputation rates in 1982 occurred in the "other" sciences and psychology, 18 percent and 14 percent, respectively. The amounts imputed or estimated in the source-of-funds categories and the percentage of all institutional totals are shown in table A-4. This table reveals that university respondents were able to identify the sources of R&D support on federally funded projects easier than on other projects. The relatively low imputation rates in tables A-3 and A-4 are evidence of the acceptable quality of data reported and the increasing care addressed by respondent institutions in providing usable data in the survey.

It should be evident that, as in all surveys, the quality of the end product depends on the respondents' ability to provide viable data. If information is not complete at the time of the survey, the respondent may find it necessary to provide only what is available. In that case, revision of earlier years' data is a strengthening action.

Every effort is made to maintain close contact with respondents in order to preserve the consistency and continuity of the resultant data. NSF carefully examined the completed 1982 questionnaires upon receipt. A computerized facsimile of the survey form was then prepared for each institution, depicting a 3-year comparison of its responses to each item, including the current-year's data, and noting substantive disparities, if any. The facsimiles were mailed to all doctorate institutions and to all other institutions requiring corrections so that updating could be accomplished before the final processing and tabulation by the contractor.

Institutions included in the R&D survey are given the opportunity to correct prior-years' data when necessary. When updated or amended figures covering past years are submitted by a respondent, trend data are correspondingly changed by NSF. Similarly, if a respondent institution undergoes an organizational change, such as a merger, NSF incorporates the effects of such changes into prior-years' data in order to preserve the comparability and consistency of the data series.

For detailed studies of individual institutional responses, the 1982 data tapes may be obtained by requesting a *Data User Guide* from J.G. Huckenpahler, NSF, at the address indicated in the general notes; or, refer to table B-27 in section B.

Table A-3. R&D expenditures survey imputed and estimated amounts by field: FY 1982

[Dollars in millions]

Science/engineering field	Separately budgeted R&D expenditures			Federally financed R&D expenditures		
	Total	Amount imputed and/or estimated	Percent of total	Federal	Amount imputed and/or estimated	Percent of total
Total	$7,261	$442	6.1	$4,749	$240	5.1
Engineering	1,025	66	6.4	697	24	3.4
Physical sciences	823	96	11.7	650	26	4.0
Environmental sciences	560	55	9.8	392	27	6.9
Mathematical/computer sciences	244	24	5.7	179	4	2.2
Life sciences	3,970	528	13.3	2,493	191	7.8
Psychology	132	18	13.6	89	10	11.2
Social sciences	354	38	10.7	163	8	4.9
Other sciences	153	28	18.3	87	5	5.7

SOURCE: National Science Foundation

Table A-4. R&D expenditures survey imputed and estimated rates by source of funds: FY 1982

[Dollars in millions]

Source of funds	Separately budgeted R&D expenditures		
	Total	Amount imputed and/or estimated	Percent of total
Total	$7,261	$442	6.1
Federal Government	4,749	240	5.1
State and local governments	586	57	9.7
Industry	326	24	7.4
Institutional funds	1,098	74	6.7
All other sources	503	59	11.7

SOURCE: National Science Foundation

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(DOLLARS IN MILLIONS)

FISCAL YEAR	TOTAL	FEDERAL GOVERNMENT	STATE AND LOCAL GOVERNMENTS	INDUSTRY	INSTITUTIONAL FUNDS	ALL OTHER SOURCES
1953	255	138	37	19	35	26
1954	290	160	42	22	38	28
1955	312	169	47	25	41	30
1956	372	213	53	29	43	34
1957	410	249	60	34	49	38
1958	456	254	68	39	53	42
1959	526	306	76	39	58	47
1960	646	405	85	40	64	52
1961	763	500	95	40	70	58
1962	904	613	106	40	79	66
1963	1,081	760	118	41	89	73
1964	1,275	917	132	40	103	83
1965	1,474	1,073	143	41	124	93
1966	1,715	1,261	156	42	148	108
1967	1,921	1,409	164	48	181	119
1968	2,149	1,572	172	55	218	132
1969	2,225	1,600	197	60	223	145
1970	2,335	1,647	219	61	243	165
1971	2,500	1,724	255	70	274	177
1972	2,630	1,795	269	74	305	187
1973	2,884	1,985	295	84	318	202
1974	3,023	2,032	307	96	370	218
1975	3,409	2,288	332	113	417	259
1976	3,729	2,512	364	123	446	285
1977	4,067	2,726	374	139	514	314
1978 1/	4,625	3,059	414	170	623	359
1979	5,361	3,595	470	193	730	374
1980	6,060	4,094	494	236	829	409
1981	6,818	4,559	540	288	983	448
1982	7,261	4,749	586	326	1,098	503

1/ ESTIMATED, BASED ON DATA COLLECTED FROM DOCTORATE-GRANTING INSTITUTIONS ONLY.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-2. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY YEAR AND CHARACTER OF WORK: FISCAL YEARS 1953-82

(DOLLARS IN MILLIONS)

FISCAL YEAR	TOTAL	BASIC RESEARCH		APPLIED RESEARCH AND DEVELOPMENT	
		AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL
1953	255	110	43.1%	145	56.9%
1954	290	136	46.9	154	53.1
1955	312	159	51.0	153	49.0
1956	372	200	53.8	172	46.2
1957	410	240	58.5	170	41.5
1958	456	281	61.6	175	38.4
1959	526	343	65.2	183	34.8
1960	646	433	67.0	213	33.0
1961	763	536	70.2	227	29.8
1962	904	659	72.9	245	27.1
1963	1,081	814	75.3	267	24.7
1964	1,275	1,003	78.7	272	21.3
1965	1,474	1,138	77.2	336	22.8
1966	1,715	1,303	76.0	412	24.0
1967	1,921	1,457	75.8	464	24.2
1968	2,149	1,650	76.8	499	23.2
1969	2,225	1,711	76.9	514	23.1
1970	2,335	1,796	76.9	539	23.1
1971	2,500	1,914	76.6	586	23.4
1972	2,630	2,022	76.9	608	23.1
1973	2,884	2,053	71.2	831	28.8
1974	3,023	2,154	71.2	869	28.8
1975	3,409	2,410	70.7	999	29.3
1976	3,729	2,549	68.4	1,180	31.6
1977	4,067	2,800	68.8	1,267	31.2
1978 1/	4,625	-	-	-	-
1979	5,361	3,612	67.4	1,749	32.6
1980	6,060	4,026	66.4	2,034	33.6
1981	6,818	4,576	67.1	2,242	32.9
1982	7,261	4,851	66.8	2,410	33.2

1/ DATA WERE NOT COLLECTED IN 1978.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-3. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1978 1/	1979	1980	1981	1982
TOTAL	3,408,691	3,729,007	4,066,953	4,624,673	5,361,408	6,060,118	6,818,343	7,260,637
SOURCE OF FUNDS:								
FEDERAL GOVERNMENT	2,288,070	2,511,867	2,726,126	3,058,734	3,595,271	4,093,586	4,559,049	4,749,264
STATE AND LOCAL GOVERNMENTS	331,646	363,746	373,943	414,389	470,073	493,649	540,050	585,559
INDUSTRY	112,952	123,145	138,807	169,623	192,753	235,522	287,550	325,594
INSTITUTIONAL FUNDS	417,425	445,590	514,275	622,646	729,731	828,774	983,445	1,097,602
ALL OTHER SOURCES	258,598	284,659	313,802	359,281	373,580	408,587	448,249	502,618
CHARACTER OF WORK: 2/								
BASIC RESEARCH	2,409,777	2,548,820	2,799,649	-	3,612,278	4,026,180	4,576,230	4,850,953
APPLIED RESEARCH AND DEVELOPMENT	998,914	1,180,187	1,267,304	-	1,749,130	2,033,938	2,242,113	2,409,684
FIELD:								
ENGINEERING 3/	380,912	431,727	498,473	601,062	768,407	864,040	959,989	1,024,514
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	46,286	45,523	60,645
CHEMICAL	-	-	-	-	-	67,559	83,215	83,265
CIVIL	-	-	-	-	-	98,604	108,189	108,288
ELECTRICAL	-	-	-	-	-	183,727	192,796	224,375
MECHANICAL	-	-	-	-	-	145,621	148,585	141,513
OTHER, N.E.C.	-	-	-	-	-	332,243	381,681	406,477
PHYSICAL SCIENCES	350,278	379,379	423,457	496,599	601,904	677,604	766,804	822,864
ASTRONOMY	26,607	26,294	32,361	36,782	48,493	58,741	67,391	73,296
CHEMISTRY	120,710	140,142	159,353	183,131	206,421	244,454	285,521	311,452
PHYSICS	173,510	183,050	201,655	235,099	292,533	322,057	356,944	363,263
OTHER, N.E.C.	29,451	29,893	30,088	41,387	54,991	52,352	56,649	74,833
ENVIRONMENTAL SCIENCES 3/	255,060	288,531	319,398	379,391	452,915	509,166	551,881	560,144
ATMOSPHERIC	-	-	-	-	-	68,361	78,351	85,705
EARTH SCIENCES	-	-	-	-	-	166,047	191,854	195,712
OCEANOGRAPHY	-	-	-	-	-	173,485	187,398	198,253
OTHER, N.E.C.	-	-	-	-	-	81,303	94,278	80,474
MATHEMATICAL/COMPUTER SCIENCES	85,306	86,994	107,875	126,178	176,398	192,736	222,028	244,466
MATHEMATICS	39,713	42,491	52,312	58,756	78,477	78,585	89,008	96,121
COMPUTER SCIENCES	45,593	44,503	55,563	67,422	97,921	114,151	133,020	148,345
LIFE SCIENCES	1,900,837	2,101,695	2,256,806	2,538,004	2,832,523	3,217,773	3,672,257	3,969,808
AGRICULTURAL SCIENCES	383,841	412,867	460,647	521,745	602,485	679,304	771,534	838,355
BIOLOGICAL SCIENCES	630,166	710,724	772,290	808,500	914,806	1,031,037	1,188,498	1,289,910
MEDICAL SCIENCES	811,383	897,376	950,907	1,128,652	1,237,556	1,414,356	1,599,409	1,721,004
OTHER, N.E.C.	75,447	80,728	74,962	79,107	77,676	93,076	112,816	120,539
PSYCHOLOGY	80,327	77,888	85,133	89,664	102,531	111,177	126,560	131,856
SOCIAL SCIENCES	256,116	262,261	268,087	277,497	295,138	341,551	372,195	354,036
ECONOMICS	55,949	65,447	72,124	79,129	83,089	90,162	99,711	94,735
POLITICAL SCIENCE	29,382	28,355	32,314	36,571	45,431	55,450	56,695	60,782
SOCIOLOGY	68,758	66,246	61,939	66,900	74,441	88,548	94,986	79,513
OTHER, N.E.C.	102,027	102,213	101,710	94,897	91,977	107,391	120,803	119,005
OTHER SCIENCES, N.E.C.	99,855	109,532	105,724	116,478	133,592	146,071	144,929	152,970

1/ ESTIMATED, BASED ON DATA COLLECTED FROM DOCTORATE-GRANTING INSTITUTIONS ONLY.
2/ DATA WERE NOT COLLECTED IN 1978.
3/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-4. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY CHARACTER OF WORK AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1975	1976	1977	1978 1/	1979	1980	1981	1982
TOTAL	2,288,070	2,511,867	2,726,126	3,098,734	3,595,271	4,093,586	4,559,049	4,749,264
CHARACTER OF WORK: 2/								
BASIC RESEARCH	1,695,022	1,841,223	2,006,589	-	2,571,744	2,850,670	3,247,660	3,393,157
APPLIED RESEARCH AND DEVELOPMENT	593,048	670,644	719,537	-	1,023,527	1,242,916	1,311,389	1,356,107
FIELD:								
ENGINEERING 3/	259,353	290,518	336,725	407,487	526,364	594,551	661,578	697,152
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	35,610	35,302	48,097
CHEMICAL	-	-	-	-	-	46,057	55,168	49,616
CIVIL	-	-	-	-	-	58,879	67,907	59,013
ELECTRICAL	-	-	-	-	-	139,302	145,122	173,503
MECHANICAL	-	-	-	-	-	99,239	102,460	96,973
OTHER, N.E.C.	-	-	-	-	-	215,464	255,619	269,950
PHYSICAL SCIENCES	284,992	305,407	338,782	392,346	490,680	554,455	618,612	649,670
ASTRONOMY	19,522	18,351	23,230	26,349	36,245	44,441	47,876	51,728
CHEMISTRY	92,716	107,867	121,453	138,001	156,516	189,287	216,630	231,627
PHYSICS	149,862	156,102	171,910	199,161	252,518	279,666	308,481	305,906
OTHER, N.E.C.	22,892	23,087	22,139	28,835	45,401	41,061	45,625	60,409
ENVIRONMENTAL SCIENCES 3/	180,643	211,822	238,591	275,080	329,154	371,862	392,342	391,513
ATMOSPHERIC	-	-	-	-	-	56,125	58,698	68,446
EARTH SCIENCES	-	-	-	-	-	129,660	128,490	126,309
OCEANOGRAPHY	-	-	-	-	-	133,509	145,586	153,715
OTHER, N.E.C.	-	-	-	-	-	52,568	59,568	43,040
MATHEMATICAL/COMPUTER SCIENCES	65,099	65,807	78,184	85,344	129,623	137,945	161,282	179,398
MATHEMATICS	31,224	32,882	40,638	44,130	60,431	61,028	67,839	72,030
COMPUTER SCIENCES	33,875	32,925	37,546	41,214	69,192	76,917	93,443	107,368
LIFE SCIENCES	1,237,878	1,380,846	1,473,984	1,626,413	1,818,779	2,093,749	2,363,543	2,493,092
AGRICULTURAL SCIENCES	112,864	122,538	132,772	155,349	184,676	211,255	233,613	254,691
BIOLOGICAL SCIENCES	457,093	522,172	575,129	590,560	664,675	762,897	866,297	921,875
MEDICAL SCIENCES	613,716	677,509	712,327	824,808	914,905	1,056,525	1,187,297	1,238,805
OTHER, N.E.C.	54,205	58,627	53,756	55,696	54,523	63,042	76,336	77,721
PSYCHOLOGY	61,686	59,367	63,648	63,996	72,257	81,053	92,451	89,105
SOCIAL SCIENCES	141,333	138,255	138,205	140,445	155,074	181,627	187,554	162,656
ECONOMICS	26,968	29,132	31,595	37,103	40,026	43,430	44,532	41,376
POLITICAL SCIENCE	12,280	11,966	14,926	15,888	20,561	23,676	23,398	22,602
SOCIOLOGY	45,041	41,115	37,854	40,597	47,144	57,140	56,500	46,151
OTHER, N.E.C.	57,044	56,042	53,830	46,857	47,343	57,381	63,124	52,527
OTHER SCIENCES, N.E.C.	57,086	59,845	58,007	67,623	73,340	78,344	81,687	86,681

1/ ESTIMATED, BASED ON DATA COLLECTED FROM DOCTORATE-GRANTING INSTITUTIONS ONLY.
2/ DATA WERE NOT COLLECTED IN 1978.
3/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-5. — NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1978 1/	1979	1980	1981	1982
TOTAL NON-FEDERAL	1,120,621	1,217,140	1,340,827	1,565,939	1,766,137	1,966,522	2,259,294	2,511,373
SOURCE OF FUNDS:								
STATE AND LOCAL GOVERNMENTS	331,646	363,746	373,943	414,389	470,073	493,649	540,050	585,559
INDUSTRY	112,952	123,145	138,807	169,623	192,753	235,522	287,550	325,594
INSTITUTIONAL FUNDS	417,425	445,590	514,275	622,646	729,731	828,774	983,445	1,097,602
ALL OTHER SOURCES	258,598	284,659	313,802	359,281	373,580	408,587	448,249	502,618
CHARACTER OF WORK: 2/								
BASIC RESEARCH	714,755	707,597	793,060	-	1,040,534	1,175,510	1,328,570	1,457,796
APPLIED RESEARCH AND DEVELOPMENT	405,866	509,543	547,767	-	725,603	791,022	930,724	1,053,577
FIELD:								
ENGINEERING 3/	121,559	141,909	141,748	192,575	242,043	269,439	298,411	327,362
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	10,676	10,221	12,548
CHEMICAL	-	-	-	-	-	21,562	28,047	33,649
CIVIL	-	-	-	-	-	29,725	40,282	49,275
ELECTRICAL	-	-	-	-	-	44,495	47,674	50,823
MECHANICAL	-	-	-	-	-	46,362	46,125	44,540
OTHER, N.E.C.	-	-	-	-	-	116,779	126,062	136,527
PHYSICAL SCIENCES	65,286	73,972	84,675	104,053	112,724	123,149	147,892	173,174
ASTRONOMY	7,085	7,943	9,131	10,433	12,214	14,300	19,515	21,568
CHEMISTRY	27,994	32,275	37,900	45,130	49,905	55,167	68,890	79,825
PHYSICS	23,648	26,948	29,745	35,938	39,515	42,391	48,463	57,357
OTHER, N.E.C.	6,559	6,806	7,899	12,552	9,590	11,291	11,024	14,424
ENVIRONMENTAL SCIENCES 3/	74,417	76,709	80,807	104,311	123,761	137,304	159,539	168,634
ATMOSPHERIC	-	-	-	-	-	12,236	19,653	17,259
EARTH SCIENCES	-	-	-	-	-	56,387	63,364	69,403
OCEANOGRAPHY	-	-	-	-	-	39,946	41,812	44,538
OTHER, N.E.C.	-	-	-	-	-	28,735	34,710	37,434
MATHEMATICAL/COMPUTER SCIENCES	20,207	21,187	29,691	40,834	46,775	54,791	60,746	65,068
MATHEMATICS	8,489	9,609	11,674	14,626	18,046	17,557	21,169	24,091
COMPUTER SCIENCES	11,718	11,578	18,017	26,208	28,729	37,234	39,577	40,977
LIFE SCIENCES	662,959	720,849	784,822	911,591	1,013,744	1,124,024	1,306,714	1,476,716
AGRICULTURAL SCIENCES	270,977	290,329	327,875	366,396	417,809	468,019	537,921	583,664
BIOLOGICAL SCIENCES	173,073	188,552	197,161	217,940	250,131	268,140	320,201	368,035
MEDICAL SCIENCES	197,667	219,867	238,580	303,844	322,651	357,851	412,112	482,199
OTHER, N.E.C.	21,242	22,101	21,206	23,411	23,153	30,034	36,480	42,818
PSYCHOLOGY	18,641	18,521	21,485	25,668	28,274	30,124	36,109	42,751
SOCIAL SCIENCES	114,783	124,006	129,862	137,052	140,064	159,924	184,641	191,379
ECONOMICS	28,981	36,315	40,529	42,026	43,063	46,732	55,179	53,359
POLITICAL SCIENCE	17,102	16,389	17,388	20,683	24,870	31,774	33,297	38,130
SOCIOLOGY	23,717	25,131	24,085	26,303	27,497	31,408	38,486	33,362
OTHER, N.E.C.	44,983	46,171	47,880	48,040	44,634	50,010	57,679	66,478
OTHER SCIENCES, N.E.C.	42,769	40,687	47,717	48,855	60,252	67,727	63,242	66,289

1/ ESTIMATED, BASED ON DATA COLLECTED FROM DOCTORATE-GRANTING INSTITUTIONS ONLY.
2/ DATA WERE NOT COLLECTED IN 1978.
3/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE 8-6. -- R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS, BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL	3,338,409	3,656,888	3,987,685	4,540,256	5,271,643	5,958,697	6,697,267	7,134,296
SOURCE OF FUNDS:								
FEDERAL GOVERNMENT	2,241,149	2,445,396	2,677,463	3,004,930	3,534,215	4,027,566	4,470,724	4,668,864
STATE AND LOCAL GOVERNMENTS	325,209	356,451	365,569	406,509	461,534	483,694	529,653	570,970
INDUSTRY	110,098	120,087	135,031	165,512	189,300	231,255	281,249	318,741
INSTITUTIONAL FUNDS	439,468	486,795	502,930	610,827	717,502	815,013	968,235	1,082,835
ALL OTHER SOURCES	252,485	278,159	306,692	352,478	369,092	401,169	447,406	492,886
CHARACTER OF WORK: 1/								
BASIC RESEARCH	2,370,779	2,507,788	2,758,513	-	3,561,649	3,965,790	4,502,579	4,769,319
APPLIED RESEARCH AND DEVELOPMENT	967,630	1,149,100	1,229,372	-	1,709,994	1,992,907	2,194,688	2,364,977
FIELD:								
ENGINEERING 2/	377,107	425,182	490,931	591,962	761,142	836,186	951,883	1,016,347
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	45,743	44,920	59,773
CHEMICAL	-	-	-	-	-	66,878	82,987	83,104
CIVIL	-	-	-	-	-	86,663	106,068	106,323
ELECTRICAL	-	-	-	-	-	182,920	191,597	223,327
MECHANICAL	-	-	-	-	-	144,595	147,119	140,200
OTHER, N.E.C.	-	-	-	-	-	329,387	379,192	403,620
PHYSICAL SCIENCES	338,445	366,497	410,642	481,447	585,227	659,265	746,584	801,521
ASTRONOMY	26,394	26,074	32,117	36,505	47,969	58,087	66,746	72,662
CHEMISTRY	114,939	133,613	152,454	175,438	198,788	234,769	273,401	298,241
PHYSICS	169,310	179,013	197,861	230,678	284,738	315,902	350,576	356,796
OTHER, N.E.C.	27,802	27,777	28,210	38,826	51,732	50,507	55,861	73,822
ENVIRONMENTAL SCIENCES 2/	246,766	279,503	309,283	367,337	443,531	496,249	534,528	548,303
ATMOSPHERIC	-	-	-	-	-	66,137	75,303	83,613
EARTH SCIENCES	-	-	-	-	-	180,247	185,423	189,143
OCEANOGRAPHY	-	-	-	-	-	171,386	183,314	195,052
OTHER, N.E.C.	-	-	-	-	-	78,479	90,488	75,495
MATHEMATICAL/COMPUTER SCIENCES	82,316	84,661	104,046	121,675	172,417	188,044	216,952	237,053
MATHEMATICS	37,916	41,330	51,050	57,342	77,141	76,698	86,152	92,061
COMPUTER SCIENCES	44,400	43,331	52,996	64,333	95,276	111,346	130,800	144,992
LIFE SCIENCES	1,881,524	2,081,677	2,234,749	2,515,138	2,802,489	3,184,899	3,632,511	3,926,321
AGRICULTURAL SCIENCES	377,260	406,359	453,787	514,409	591,631	666,756	755,737	821,042
BIOLOGICAL SCIENCES	619,719	700,143	758,929	793,613	899,789	1,016,551	1,170,097	1,268,568
MEDICAL SCIENCES	809,763	895,759	947,629	1,128,652	1,234,837	1,410,708	1,596,510	1,718,814
OTHER, N.E.C.	74,782	79,416	74,404	78,464	76,232	90,884	110,167	117,897
PSYCHOLOGY	74,385	74,621	82,199	86,556	93,944	106,712	121,959	127,667
SOCIAL SCIENCES	242,790	248,467	254,749	264,351	283,183	324,002	350,091	332,632
ECONOMICS	54,030	64,356	70,825	74,332	80,780	87,259	96,608	92,865
POLITICAL SCIENCE	28,109	27,087	31,144	40,393	44,284	53,331	54,309	58,321
SOCIOLOGY	66,054	63,634	59,356	65,030	72,059	83,285	86,311	72,214
OTHER, N.E.C.	94,597	93,390	93,424	84,596	86,060	100,127	112,863	109,232
OTHER SCIENCES, N.E.C.	95,076	96,280	101,286	111,790	129,710	143,340	142,759	149,452

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-7. -- FEDERALLY FINANCED R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS BY CHARACTER OF WORK AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL	2,241,149	2,465,396	2,677,463	3,004,930	3,534,215	4,027,566	4,479,724	4,658,964
CHARACTER OF WORK: 1/								
BASIC RESEARCH	1,669,162	1,814,631	1,980,963	-	2,533,971	2,808,782	3,196,594	3,336,638
APPLIED RESEARCH AND DEVELOPMENT	571,987	650,765	696,500	-	1,000,244	1,218,784	1,283,130	1,332,326
FIELD:								
ENGINEERING 2/	256,486	286,609	332,283	402,102	520,978	588,798	656,231	691,967
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	35,107	34,747	47,284
CHEMICAL	-	-	-	-	-	45,504	55,051	49,562
CIVIL	-	-	-	-	-	57,339	66,407	57,602
ELECTRICAL	-	-	-	-	-	138,772	147,320	172,838
MECHANICAL	-	-	-	-	-	98,552	101,485	96,253
OTHER, N.E.C.	-	-	-	-	-	213,524	254,221	268,428
PHYSICAL SCIENCES	277,357	296,826	330,554	383,004	478,634	542,015	604,909	635,475
ASTRONOMY	19,338	18,208	23,028	26,120	35,765	43,875	47,319	51,182
CHEMISTRY	88,700	100,129	116,852	132,921	151,781	183,128	208,736	223,063
PHYSICS	146,800	153,078	168,927	195,776	248,051	274,676	303,695	300,991
OTHER, N.E.C.	22,519	25,411	21,687	28,187	43,037	40,336	45,259	60,239
ENVIRONMENTAL SCIENCES 2/	175,458	205,968	231,765	267,196	322,436	362,609	381,582	361,011
ATMOSPHERIC	-	-	-	-	-	54,019	56,305	66,579
EARTH SCIENCES	-	-	-	-	-	125,454	123,844	121,759
OCEANOGRAPHY	-	-	-	-	-	132,339	144,275	152,567
OTHER, N.E.C.	-	-	-	-	-	50,797	57,141	40,106
MATHEMATICAL/COMPUTER SCIENCES	63,327	64,638	76,417	83,412	128,131	136,162	158,720	175,992
MATHEMATICS	30,120	32,334	39,972	43,407	59,685	59,939	65,981	69,719
COMPUTER SCIENCES	32,207	32,304	36,441	40,005	68,446	76,223	92,739	106,273
LIFE SCIENCES	1,223,025	1,366,009	1,457,035	1,607,969	1,796,934	2,069,282	2,332,418	2,458,946
AGRICULTURAL SCIENCES	107,442	117,413	127,891	150,105	176,039	200,966	220,363	240,696
BIOLOGICAL SCIENCES	449,496	514,696	565,558	577,688	653,701	752,096	851,690	905,152
MEDICAL SCIENCES	612,363	676,213	710,116	824,808	913,824	1,054,815	1,185,038	1,236,925
OTHER, N.E.C.	53,724	57,747	53,470	55,368	53,370	61,405	74,627	76,173
PSYCHOLOGY	57,379	56,846	61,504	61,844	66,684	77,760	87,834	86,612
SOCIAL SCIENCES	133,940	131,522	132,864	135,209	148,928	174,416	177,564	154,072
ECONOMICS	25,558	28,560	30,870	35,726	38,572	42,173	43,214	40,770
POLITICAL SCIENCE	11,616	11,531	14,410	17,025	20,169	23,093	22,828	21,918
SOCIOLOGY	43,355	39,777	36,600	39,648	45,922	54,197	52,165	42,975
OTHER, N.E.C.	53,411	51,654	50,984	42,810	44,265	54,953	59,357	48,409
OTHER SCIENCES, N.E.C.	54,177	56,918	55,045	64,194	71,440	76,524	80,466	84,789

1/ DATA HERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-8. -- NON-FEDERAL R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL NON-FEDERAL	1,097,260	1,191,492	1,310,422	1,535,326	1,737,428	1,931,131	2,217,543	2,465,432
SOURCE OF FUNDS:								
STATE AND LOCAL GOVERNMENTS	325,209	356,451	365,569	406,509	461,534	483,694	529,033	570,970
INDUSTRY	110,096	120,087	135,031	165,512	189,300	231,255	281,149	318,741
INSTITUTIONAL FUNDS	409,468	436,795	502,930	610,027	717,502	815,013	968,235	1,082,835
ALL OTHER SOURCES	252,485	278,159	306,892	352,478	369,092	401,169	439,126	492,886
CHARACTER OF WORK: 1/								
BASIC RESEARCH	701,617	693,157	777,550	-	1,027,678	1,157,008	1,305,985	1,432,781
APPLIED RESEARCH AND DEVELOPMENT	395,643	498,335	532,872	-	709,750	774,122	911,558	1,032,651
FIELD:								
ENGINEERING 2/	120,621	138,573	158,648	189,865	240,164	267,388	295,652	324,380
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	10,636	10,173	12,489
CHEMICAL	-	-	-	-	-	21,374	27,911	33,542
CIVIL	-	-	-	-	-	29,324	39,661	48,721
ELECTRICAL	-	-	-	-	-	44,148	47,277	50,489
MECHANICAL	-	-	-	-	-	46,043	45,634	43,947
OTHER, N.E.C.	-	-	-	-	-	115,863	124,971	135,192
PHYSICAL SCIENCES	61,088	69,671	80,088	94,443	106,593	117,250	141,675	166,046
ASTRONOMY	7,056	7,886	9,089	10,385	12,204	14,212	19,427	21,400
CHEMISTRY	26,239	30,484	35,602	42,517	47,007	51,641	64,763	75,178
PHYSICS	22,510	25,935	29,874	34,902	38,687	41,226	46,881	55,805
OTHER, N.E.C.	5,283	5,366	6,523	10,639	8,695	10,171	10,604	13,583
ENVIRONMENTAL SCIENCES 2/	71,308	73,535	77,518	100,141	121,045	133,640	152,946	162,292
ATMOSPHERIC	-	-	-	-	-	12,118	18,998	17,034
EARTH SCIENCES	-	-	-	-	-	54,793	61,562	67,324
OCEANOGRAPHY	-	-	-	-	-	39,047	39,039	42,485
OTHER, N.E.C.	-	-	-	-	-	27,682	33,347	35,389
MATHEMATICAL/COMPUTER SCIENCES	18,989	20,023	27,633	38,263	44,286	51,882	58,232	61,061
MATHEMATICS	7,796	8,996	11,078	13,935	17,456	16,779	20,171	22,342
COMPUTER SCIENCES	11,193	11,027	16,555	24,328	26,830	35,123	38,061	38,719
LIFE SCIENCES	658,499	715,608	777,714	907,169	1,005,555	1,115,617	1,300,093	1,467,375
AGRICULTURAL SCIENCES	269,818	288,946	325,896	364,304	415,592	465,790	535,374	580,346
BIOLOGICAL SCIENCES	170,223	185,447	193,371	215,925	246,088	264,455	318,207	363,416
MEDICAL SCIENCES	197,400	219,546	237,513	303,844	321,013	385,893	410,972	481,889
OTHER, N.E.C.	21,058	21,669	20,934	23,096	22,862	29,479	35,540	41,724
PSYCHOLOGY	17,006	17,775	20,695	24,712	27,260	28,952	34,135	41,055
SOCIAL SCIENCES	108,650	116,945	121,885	129,142	134,255	149,586	172,527	178,560
ECONOMICS	28,472	35,796	39,955	38,606	42,208	45,086	53,394	52,095
POLITICAL SCIENCE	16,493	15,556	16,734	23,368	24,115	30,238	31,481	36,403
SOCIOLOGY	22,509	23,857	22,756	25,382	26,137	29,088	34,146	29,239
OTHER, N.E.C.	41,186	41,736	42,440	41,786	41,795	45,174	53,506	60,823
OTHER SCIENCES, N.E.C.	40,899	39,362	46,241	47,596	58,270	66,816	62,293	64,663

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-9. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL	6,818,343	7,260,637	6.5	4,346,962	4,614,956	6.2	2,471,381	2,645,681	7.1
SOURCE OF FUNDS:									
FEDERAL GOVERNMENT	4,559,049	4,749,264	4.2	2,617,993	2,716,358	3.8	1,941,056	2,032,906	4.7
STATE AND LOCAL GOVERNMENTS	540,050	585,559	8.4	493,021	536,526	8.8	47,029	49,033	4.3
INDUSTRY	287,550	325,594	13.2	177,752	199,287	12.1	109,798	126,307	15.0
INSTITUTIONAL FUNDS	983,445	1,097,602	11.6	794,359	859,533	8.2	189,086	238,069	25.9
ALL OTHER SOURCES	448,249	502,618	12.1	263,837	303,252	14.9	184,412	199,366	8.1
CHARACTER OF WORK:									
BASIC RESEARCH	4,576,230	4,850,952	6.0	2,708,932	2,852,015	5.3	1,867,298	1,998,938	7.0
APPLIED RESEARCH AND DEVELOPMENT	2,242,113	2,409,684	7.5	1,638,030	1,762,941	7.6	604,083	646,743	7.1
FIELD:									
ENGINEERING	959,989	1,024,514	6.7	568,864	594,738	4.5	391,125	429,776	9.9
AERONAUTICAL AND ASTRONAUTICAL	45,523	60,645	33.2	20,125	24,065	19.6	25,398	36,580	44.0
CHEMICAL	83,215	83,265	.1	49,188	53,171	8.1	34,027	30,094	-11.6
CIVIL	108,189	108,288	.1	73,640	81,824	11.1	34,549	26,464	-23.4
ELECTRICAL	192,796	224,326	16.4	98,219	115,038	17.1	94,577	109,288	15.6
MECHANICAL	148,585	141,513	-4.8	73,779	73,178	-.8	74,806	68,335	-8.7
OTHER, N.E.C.	381,681	406,477	6.5	253,913	247,461	-2.5	127,768	159,015	24.5
PHYSICAL SCIENCES	766,504	822,844	7.4	425,591	467,110	9.8	340,913	355,734	4.3
ASTRONOMY	67,391	73,296	8.8	50,594	53,697	6.1	16,797	19,599	16.7
CHEMISTRY	285,520	311,652	9.1	176,179	193,359	9.8	109,341	118,093	8.0
PHYSICS	356,944	363,263	1.8	168,210	187,221	11.3	188,734	176,042	-6.7
OTHER, N.E.C.	56,649	74,833	32.1	30,608	32,833	7.3	26,041	42,000	61.3
ENVIRONMENTAL SCIENCES	551,881	560,144	1.5	391,527	393,248	.4	160,354	166,896	4.1
ATMOSPHERIC	78,351	85,705	9.4	66,381	65,553	-1.2	11,970	20,152	68.4
EARTH SCIENCES	191,854	195,712	2.0	140,997	141,872	.6	50,857	53,840	5.9
OCEANOGRAPHY	187,398	198,253	5.8	137,908	138,876	.7	49,490	59,377	20.0
OTHER, N.E.C.	94,278	80,474	-14.6	46,241	46,947	1.5	48,037	33,527	-30.2
MATHEMATICAL/COMPUTER SCIENCES	222,028	244,466	10.1	97,367	115,224	18.3	124,661	129,242	3.7
MATHEMATICS	89,008	96,121	8.0	42,625	49,895	17.1	46,383	46,226	-.3
COMPUTER SCIENCES	133,020	148,345	11.5	54,742	65,329	19.3	78,278	83,016	6.1
LIFE SCIENCES	3,672,257	3,969,808	8.1	2,412,577	2,603,148	7.9	1,259,680	1,366,660	8.5
AGRICULTURAL SCIENCES	771,534	838,355	8.7	749,878	813,180	8.4	21,656	25,175	16.2
BIOLOGICAL SCIENCES	1,188,498	1,289,910	8.5	712,203	762,780	7.1	476,295	527,130	10.7
MEDICAL SCIENCES	1,599,409	1,721,004	7.6	899,645	976,717	8.6	699,764	744,287	6.4
OTHER, N.E.C.	112,816	120,539	6.8	50,851	50,471	-.7	61,965	70,068	13.1
PSYCHOLOGY	128,560	131,856	2.6	85,548	86,092	.6	43,012	45,764	6.4
SOCIAL SCIENCES	372,195	354,035	-4.9	259,670	240,707	-7.3	112,525	113,328	.7
ECONOMICS	99,711	94,735	-5.0	72,415	69,367	-4.2	27,296	25,368	-7.1
POLITICAL SCIENCE	56,695	60,782	7.2	38,094	42,985	12.8	18,601	17,797	-4.3
SOCIOLOGY	94,986	79,513	-16.3	69,818	51,767	-26.4	25,168	28,146	11.8
OTHER, N.E.C.	120,803	119,005	-1.5	79,343	76,988	-3.0	41,460	42,017	1.3
OTHER SCIENCES, N.E.C.	144,929	152,970	5.5	105,818	114,689	8.4	39,111	38,281	-2.1

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-10. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL FEDERAL	4,559,049	4,749,264	4.2	2,617,993	2,716,358	3.8	1,941,056	2,032,906	4.7
CHARACTER OF WORK:									
BASIC RESEARCH	3,247,660	3,393,157	4.5	1,761,911	1,825,217	3.6	1,485,749	1,567,940	5.5
APPLIED RESEARCH AND DEVELOPMENT	1,311,389	1,356,107	3.4	856,082	891,141	4.1	455,307	464,966	2.1
FIELD:									
ENGINEERING	661,578	697,152	5.4	345,557	351,819	1.8	316,021	345,333	9.3
AERONAUTICAL AND ASTRONAUTICAL	35,302	48,097	36.2	13,886	17,055	22.8	21,416	31,042	44.9
CHEMICAL	55,168	49,616	-10.1	28,593	29,150	1.9	26,575	20,466	-23.0
CIVIL	67,907	59,013	-13.1	40,416	39,931	-1.2	27,491	19,082	-30.6
ELECTRICAL	145,122	173,503	19.6	66,27[illegible]	79,777	20.4	78,850	93,726	18.9
MECHANICAL	102,460	96,973	-5.4	45,909	44,903	-2.2	56,551	52,070	-7.9
OTHER, N.E.C.	255,619	269,950	5.6	150,481	141,003	-6.3	105,138	128,947	22.6
PHYSICAL SCIENCES	618,612	649,670	5.0	322,044	349,439	8.5	296,568	300,231	1.2
ASTRONOMY	47,876	51,728	8.0	37,050	39,066	5.4	10,826	12,662	17.0
CHEMISTRY	216,630	231,627	6.9	126,[illegible]	139,597	8.5	88,024	92,030	4.6
PHYSICS	308,481	305,906	-.8	134,981	147,221	9.1	173,500	158,685	-8.5
OTHER, N.E.C.	45,625	60,409	32.4	21,407	23,555	10.0	24,218	36,854	52.2
ENVIRONMENTAL SCIENCES	392,342	391,510	-.2	261,803	253,507	-3.2	130,539	138,003	5.7
ATMOSPHERIC	58,698	68,446	16.6	48,948	50,598	3.4	9,750	17,848	83.1
EARTH SCIENCES	128,490	126,309	-1.7	85,943	83,067	-3.3	42,547	43,242	1.6
OCEANOGRAPHY	145,586	153,715	5.6	104,739	101,494	-3.1	40,847	52,221	27.8
OTHER, N.E.C.	59,568	43,040	-27.7	22,173	18,348	-17.3	37,395	24,692	-34.0
MATHEMATICAL/COMPUTER SCIENCES	161,262	179,398	11.2	55,900	70,340	25.8	105,382	109,058	3.5
MATHEMATICS	67,839	72,030	6.2	21,227	33,207	17.6	39,612	38,823	-2.0
COMPUTER SCIENCES	93,443	107,368	14.9	27,673	37,133	34.2	65,770	70,235	6.8
LIFE SCIENCES	2,363,543	2,493,092	5.5	1,395,672	1,471,393	5.4	967,871	1,021,699	5.6
AGRICULTURAL SCIENCES	233,613	254,691	9.0	227,010	247,[illegible]33	9.1	6,603	7,068	7.0
BIOLOGICAL SCIENCES	866,297	921,875	6.4	489,178	516,900	5.7	377,119	404,975	7.4
MEDICAL SCIENCES	1,197,297	1,238,805	4.3	648,272	680,294	4.9	539,025	558,515	3.6
OTHER, N.E.C.	76,336	77,721	1.8	31,212	26,580	-14.8	45,124	51,141	13.3
PSYCHOLOGY	92,451	89,105	-3.6	61,392	58,058	-5.4	31,059	31,047	.0
SOCIAL SCIENCES	187,554	162,656	-13.3	118,391	99,692	-15.8	69,163	62,964	-9.0
ECONOMICS	44,532	41,376	-7.1	29,064	27,593	-5.1	15,468	13,783	-10.9
POLITICAL SCIENCE	23,398	22,602	-3.4	13,258	13,726	3.5	10,140	8,876	-12.5
SOCIOLOGY	56,500	46,151	-18.3	38,460	26,623	-30.8	18,040	19,528	8.2
OTHER, N.E.C.	63,124	52,527	-16.8	37,609	31,750	-15.6	25,515	20,777	-18.6
OTHER SCIENCES, N.E.C.	81,687	86,781	6.1	57,234	62,110	8.5	24,453	24,571	.5

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-11. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES, BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL NON-FEDERAL	2,259,294	2,511,373	11.2	1,728,969	1,898,598	9.8	530,325	612,775	15.5
SOURCE OF FUNDS:									
STATE AND LOCAL GOVERNMENTS	540,050	585,559	8.4	493,021	536,526	8.8	47,029	49,033	4.3
INDUSTRY	287,550	325,594	13.2	177,752	199,287	12.1	109,798	126,307	15.0
INSTITUTIONAL FUNDS	983,445	1,097,602	11.6	794,359	859,533	8.2	189,086	238,069	25.9
ALL OTHER SOURCES	448,249	502,618	12.1	263,837	303,252	14.9	184,412	199,366	8.1
CHARACTER OF WORK:									
BASIC RESEARCH	1,328,570	1,457,796	9.7	947,021	1,026,798	8.4	381,549	430,998	13.0
APPLIED RESEARCH AND DEVELOPMENT	930,724	1,053,577	13.2	781,948	871,800	11.5	148,776	181,777	22.2
FIELD:									
ENGINEERING	298,411	327,362	9.7	223,307	242,919	8.8	75,104	84,443	12.4
AERONAUTICAL AND ASTRONAUTICAL	10,221	12,548	22.8	6,239	7,010	12.4	3,982	5,538	39.1
CHEMICAL	28,047	33,649	20.0	20,595	24,021	16.6	7,452	9,628	29.2
CIVIL	40,282	49,275	22.3	33,224	41,893	26.1	7,058	7,382	4.6
ELECTRICAL	47,574	50,823	6.6	31,947	35,261	10.4	15,727	15,562	-1.0
MECHANICAL	46,125	44,540	-3.4	27,870	23,275	-16.5	18,255	16,265	-10.9
OTHER, N.E.C.	126,062	136,527	8.3	103,432	106,459	2.9	22,630	30,068	32.9
PHYSICAL SCIENCES	148,892	173,174	17.1	103,547	117,671	13.6	44,345	55,503	25.2
ASTRONOMY	19,519	21,560	10.5	13,544	14,631	8.0	5,971	6,937	16.2
CHEMISTRY	68,890	79,825	15.9	47,573	52,762	10.9	21,317	26,063	22.3
PHYSICS	48,463	57,357	18.4	33,229	40,000	20.4	15,234	17,357	13.9
OTHER, N.E.C.	11,024	14,424	30.8	9,201	9,278	.8	1,823	5,146	182.3
ENVIRONMENTAL SCIENCES	159,539	168,634	5.7	129,724	139,741	7.7	29,815	28,893	-3.1
ATMOSPHERIC	19,653	17,259	-12.2	17,433	14,955	-14.2	2,220	2,304	3.8
EARTH SCIENCES	63,364	69,403	9.5	55,054	58,805	6.8	8,310	10,598	27.5
OCEANOGRAPHY	21,812	24,538	12.5	33,169	37,382	12.7	8,643	7,156	-17.2
OTHER, N.E.C.	34,710	37,434	7.8	24,068	28,599	18.8	10,642	8,835	-17.0
MATHEMATICAL/COMPUTER SCIENCES	60,746	65,068	7.1	41,467	44,884	8.2	19,279	20,184	4.7
MATHEMATICS	21,169	24,091	13.8	14,398	16,688	15.9	6,771	7,403	9.3
COMPUTER SCIENCES	39,577	40,977	3.5	27,069	28,196	4.2	12,508	12,781	2.2
LIFE SCIENCES	1,308,714	1,476,716	12.8	1,016,905	1,131,755	11.3	291,809	344,961	18.2
AGRICULTURAL SCIENCES	537,921	583,664	8.5	522,868	565,557	8.2	15,053	18,107	20.3
BIOLOGICAL SCIENCES	322,201	368,035	14.2	223,025	245,880	10.2	99,176	122,155	23.2
MEDICAL SCIENCES	412,112	482,199	17.0	251,373	296,427	17.9	160,739	185,772	15.6
OTHER, N.E.C.	36,480	42,818	17.4	19,639	23,891	21.7	16,841	18,927	12.4
PSYCHOLOGY	36,109	42,751	18.4	24,156	28,034	16.1	11,953	14,717	23.1
SOCIAL SCIENCES	184,641	191,379	3.6	141,279	141,015	-.2	43,362	50,364	16.1
ECONOMICS	55,179	53,359	-3.3	43,351	41,774	-3.6	11,828	11,585	-2.1
POLITICAL SCIENCE	33,297	38,180	14.7	24,836	29,259	17.8	8,461	8,921	5.4
SOCIOLOGY	38,486	33,362	-13.3	31,358	24,744	-21.1	7,128	8,618	20.9
OTHER, N.E.C.	57,679	66,478	15.3	41,734	45,238	8.4	15,945	21,240	33.2
OTHER SCIENCES, N.E.C.	63,242	66,289	4.8	48,584	52,579	8.2	14,658	13,710	-6.5

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-12. -- R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS, BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL	6,697,267	7,134,296	6.5	4,257,110	4,515,671	6.1	2,440,157	2,618,625	7.3
SOURCE OF FUNDS:									
FEDERAL GOVERNMENT	4,479,724	4,668,864	4.2	2,557,742	2,653,416	3.7	1,921,982	2,015,448	4.9
STATE AND LOCAL GOVERNMENTS	529,033	570,970	7.9	482,843	522,424	8.2	46,190	48,546	5.1
INDUSTRY	281,149	318,741	13.4	174,261	195,124	12.0	106,888	123,617	15.7
INSTITUTIONAL FUNDS	968,235	1,082,835	11.8	783,909	847,502	8.1	184,326	235,333	27.7
ALL OTHER SOURCES	439,126	492,886	12.2	250,355	297,205	15.0	180,771	195,681	8.2
CHARACTER OF WORK:									
BASIC RESEARCH	4,502,579	4,769,319	5.9	2,656,799	2,788,345	5.0	1,845,780	1,980,974	7.3
APPLIED RESEARCH AND DEVELOPMENT	2,194,688	2,364,977	7.8	1,600,311	1,727,326	7.9	594,377	637,651	7.3
FIELD:									
ENGINEERING	951,883	1,016,347	6.8	563,888	589,634	4.6	387,995	426,713	10.0
AERONAUTICAL AND ASTRONAUTICAL	44,920	59,773	33.1	19,570	23,330	19.2	25,350	36,443	43.8
CHEMICAL	82,987	83,104	.1	49,124	53,133	8.2	33,863	29,971	-11.5
CIVIL	106,068	106,323	.2	72,997	81,236	11.3	33,071	25,087	-24.1
ELECTRICAL	191,597	223,327	16.6	97,431	114,423	17.4	94,166	108,904	15.7
MECHANICAL	147,119	140,200	-4.7	72,671	72,191	-.7	74,448	68,009	-8.6
OTHER, N.E.C.	379,192	403,620	6.4	252,095	245,321	-2.7	127,097	158,299	24.5
PHYSICAL SCIENCES	746,584	801,521	7.4	412,772	452,562	9.6	333,812	348,959	4.5
ASTRONOMY	66,746	72,662	8.9	50,216	53,330	6.2	16,530	19,322	17.0
CHEMISTRY	273,401	298,241	9.1	167,799	183,493	9.4	105,602	114,748	8.7
PHYSICS	350,576	356,796	1.8	164,683	183,668	11.5	185,893	173,128	-6.9
OTHER, N.E.C.	55,861	73,822	32.2	30,074	32,071	6.6	25,787	41,751	61.9
ENVIRONMENTAL SCIENCES	534,528	543,303	1.6	378,908	379,826	.2	155,620	163,477	5.0
ATMOSPHERIC	75,303	83,613	11.0	65,893	65,310	-.9	9,410	18,303	94.5
EARTH SCIENCES	185,423	189,143	2.0	135,018	135,730	.5	50,405	53,413	6.0
OCEANOGRAPHY	183,314	195,022	6.4	135,283	136,620	1.0	48,031	58,432	21.7
OTHER, N.E.C.	90,488	75,495	-16.6	42,714	42,166	-1.3	47,774	33,329	-30.2
MATHEMATICAL/COMPUTER SCIENCES	216,952	237,053	9.3	93,772	109,518	16.8	123,180	127,535	3.5
MATHEMATICS	85,152	92,061	6.9	40,193	46,224	15.2	45,959	45,767	-.4
COMPUTER SCIENCES	130,800	144,992	10.9	53,579	63,224	18.0	77,221	81,768	5.9
LIFE SCIENCES	3,632,511	3,926,287	8.1	2,380,161	2,565,564	7.8	1,252,350	1,360,757	8.7
AGRICULTURAL SCIENCES	755,737	821,042	8.6	734,095	795,878	8.4	21,642	25,164	16.3
BIOLOGICAL SCIENCES	1,170,097	1,268,568	8.4	698,530	745,706	6.8	471,567	522,862	10.9
MEDICAL SCIENCES	1,596,510	1,718,814	7.7	897,835	974,693	8.6	698,675	744,121	6.5
OTHER, N.E.C.	110,167	117,897	7.0	49,701	49,287	-.8	60,466	68,610	13.5
PSYCHOLOGY	121,959	127,667	4.7	79,929	82,795	3.6	42,030	44,872	6.8
SOCIAL SCIENCES	350,091	332,632	-5.0	243,825	224,510	-7.9	106,266	108,122	1.7
ECONOMICS	96,608	92,865	-3.9	75,412	68,107	-3.3	26,196	24,758	-5.5
POLITICAL SCIENCE	54,309	58,321	7.4	36,071	40,872	13.3	18,238	17,449	-4.3
SOCIOLOGY	86,311	72,214	-16.3	64,328	46,607	-27.5	21,983	25,607	16.5
OTHER, N.E.C.	112,863	109,232	-3.2	73,014	68,924	-5.6	39,849	40,308	1.2
OTHER SCIENCES, N.E.C.	142,789	149,452	4.7	103,855	111,262	7.1	38,904	38,190	-1.8

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-13. -- FEDERALLY FINANCED R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS, BY CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL	4,479,724	4,668,864	4.2	2,557,742	2,653,416	3.7	1,921,982	2,015,448	4.9
CHARACTER OF WORK:									
BASIC RESEARCH	3,196,594	3,336,538	4.4	1,723,591	1,780,001	3.3	1,473,003	1,556,537	5.7
APPLIED RESEARCH AND DEVELOPMENT	1,283,130	1,332,326	3.8	834,151	873,415	4.7	448,979	458,911	2.2
FIELD:									
ENGINEERING	656,231	691,967	5.4	341,900	348,283	1.9	314,331	343,684	9.3
AERONAUTICAL AND ASTRONAUTICAL	34,747	47,284	36.1	13,333	16,333	22.5	21,414	30,951	44.5
CHEMICAL	55,051	49,562	-10.0	28,535	29,113	2.0	26,516	20,449	-22.9
CIVIL	66,407	57,602	-13.3	40,174	39,666	-1.3	26,233	17,936	-31.6
ELECTRICAL	144,320	172,838	19.8	65,577	79,222	20.8	78,743	93,616	18.9
MECHANICAL	101,485	96,253	-5.2	44,961	44,227	-1.6	56,524	52,026	-8.0
OTHER, N.E.C.	254,221	268,428	5.6	149,320	139,722	-6.4	104,901	128,706	22.7
PHYSICAL SCIENCES	604,909	635,475	5.1	313,246	339,580	8.4	291,663	295,895	1.5
ASTRONOMY	47,319	51,182	8.2	36,685	38,712	5.5	10,634	12,470	17.3
CHEMISTRY	208,638	223,063	6.9	122,932	132,737	8.0	85,706	90,326	5.4
PHYSICS	303,695	300,991	-.9	132,543	144,704	9.2	171,152	156,287	-8.7
OTHER, N.E.C.	45,257	60,239	33.1	21,086	23,427	11.1	24,171	36,812	52.3
ENVIRONMENTAL SCIENCES	381,582	381,011	-.1	253,626	245,109	-3.4	127,956	135,902	6.2
ATMOSPHERIC	56,305	66,579	18.2	48,824	50,523	3.5	7,481	16,056	114.6
EARTH SCIENCES	123,861	121,759	-1.7	81,428	78,716	-3.3	42,433	43,043	1.4
OCEANOGRAPHY	144,275	152,567	5.7	103,512	100,404	-3.0	40,763	52,163	28.0
OTHER, N.E.C.	57,141	40,106	-29.8	19,862	15,466	-22.1	37,279	24,640	-33.9
MATHEMATICAL/COMPUTER SCIENCES	158,720	175,992	10.9	54,007	67,737	25.4	104,713	108,255	3.4
MATHEMATICS	65,981	69,719	5.7	26,672	31,226	17.1	39,309	38,493	-2.1
COMPUTER SCIENCES	92,739	106,273	14.6	27,335	36,511	33.6	65,404	69,762	6.7
LIFE SCIENCES	2,332,418	2,458,946	5.4	1,369,558	1,441,851	5.3	962,860	1,017,095	5.6
AGRICULTURAL SCIENCES	220,363	240,696	9.2	213,760	233,628	9.3	6,603	7,068	7.0
BIOLOGICAL SCIENCES	851,890	905,152	6.3	478,705	503,680	5.2	373,185	401,472	7.6
MEDICAL SCIENCES	1,185,538	1,236,925	4.3	646,706	678,466	4.9	538,832	558,459	3.6
OTHER, N.E.C.	74,627	76,173	2.1	30,387	26,077	-14.2	44,240	50,096	13.2
PSYCHOLOGY	87,834	86,612	-1.4	57,643	56,316	-2.3	30,191	30,296	.3
SOCIAL SCIENCES	177,564	154,072	-13.2	111,731	94,317	-15.6	65,833	59,755	-9.2
ECONOMICS	43,214	40,770	-5.7	28,019	27,249	-2.7	15,195	13,521	-11.0
POLITICAL SCIENCE	22,828	21,918	-4.0	12,856	13,189	2.6	9,972	8,729	-12.5
SOCIOLOGY	52,165	42,975	-17.6	35,780	25,124	-29.8	16,385	17,851	8.9
OTHER, N.E.C.	59,357	48,409	-18.4	35,076	28,755	-18.0	24,281	19,654	-19.1
OTHER SCIENCES, N.E.C.	80,466	84,789	5.4	56,031	60,223	7.5	24,435	24,566	.5

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-14. — NON-FEDERAL R&D EXPENDITURES AT DOCTORATE-GRANTING INSTITUTIONS, BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND CONTROL: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	TOTAL			PUBLIC			PRIVATE		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL NON-FEDERAL	2,217,543	2,465,432	11.2	1,699,368	1,862,255	9.6	518,175	603,177	16.4
SOURCE OF FUNDS:									
STATE AND LOCAL GOVERNMENTS	529,033	570,970	7.9	482,843	522,424	8.2	46,190	48,546	5.1
INDUSTRY	281,149	318,741	13.4	174,261	195,124	12.0	106,888	123,617	15.7
INSTITUTIONAL FUNDS	968,235	1,082,835	11.8	783,909	847,502	8.1	184,326	235,333	27.7
ALL OTHER SOURCES	439,126	492,886	12.2	258,355	297,205	15.0	180,771	195,681	8.2
CHARACTER OF WORK:									
BASIC RESEARCH	1,305,985	1,432,781	9.7	933,208	1,008,344	8.1	372,777	424,437	13.9
APPLIED RESEARCH AND DEVELOPMENT	911,558	1,032,651	13.3	766,160	853,911	11.5	145,398	178,740	22.9
FIELD:									
ENGINEERING	295,652	324,380	9.7	221,988	241,351	8.7	73,664	83,029	12.7
AERONAUTICAL AND ASTRONAUTICAL	10,173	12,489	22.8	6,237	6,997	12.2	3,936	5,492	39.5
CHEMICAL	27,936	33,642	20.1	20,589	24,020	16.7	7,347	9,522	29.6
CIVIL	39,661	48,721	22.8	32,823	41,570	26.6	6,838	7,151	4.6
ELECTRICAL	47,277	50,489	6.8	31,854	35,201	10.5	15,423	15,288	-.9
MECHANICAL	45,634	43,947	-3.7	27,710	27,964	.9	17,924	15,983	-10.8
OTHER, N.E.C.	124,971	135,192	8.2	102,775	105,599	2.7	22,196	29,593	33.3
PHYSICAL SCIENCES	141,675	166,046	17.2	99,526	112,982	13.5	42,149	53,064	25.9
ASTRONOMY	19,427	21,480	10.6	13,531	14,618	8.0	5,896	6,862	16.4
CHEMISTRY	64,763	75,178	16.1	44,867	50,756	13.1	19,896	24,422	22.7
PHYSICS	46,881	55,805	19.0	32,140	38,964	21.2	14,741	16,841	14.2
OTHER, N.E.C.	10,604	13,583	28.1	8,988	8,644	-3.8	1,616	4,939	205.6
ENVIRONMENTAL SCIENCES	152,946	162,292	6.1	125,282	134,717	7.5	27,664	27,575	-.3
ATMOSPHERIC	18,998	17,034	-10.3	17,069	14,787	-13.4	1,929	2,247	16.5
EARTH SCIENCES	61,562	67,384	9.5	53,590	57,014	6.4	7,972	10,370	30.1
OCEANOGRAPHY	39,039	42,485	8.8	31,771	36,216	14.0	7,268	6,269	-13.7
OTHER, N.E.C.	33,347	35,389	6.1	22,852	26,700	16.8	10,495	8,689	-17.2
MATHEMATICAL/COMPUTER SCIENCES	58,232	61,061	4.9	39,765	41,781	5.1	18,467	19,280	4.4
MATHEMATICS	20,171	22,342	10.8	13,521	15,068	11.4	6,650	7,274	9.4
COMPUTER SCIENCES	38,061	38,719	1.7	26,244	26,713	1.8	11,817	12,006	1.6
LIFE SCIENCES	1,300,093	1,467,375	12.9	1,010,603	1,123,713	11.2	289,490	343,662	18.7
AGRICULTURAL SCIENCES	535,374	580,346	8.4	520,335	562,250	8.1	15,039	18,096	20.3
BIOLOGICAL SCIENCES	318,207	363,416	14.2	219,825	242,026	10.1	98,382	121,390	23.4
MEDICAL SCIENCES	410,972	481,889	17.3	251,129	296,227	18.0	159,843	185,662	16.2
OTHER, N.E.C.	35,540	41,724	17.4	19,314	23,210	20.2	16,226	18,514	14.1
PSYCHOLOGY	34,125	41,055	20.3	22,286	26,479	18.8	11,839	14,576	23.1
SOCIAL SCIENCES	172,527	178,560	3.5	132,094	130,193	-1.4	40,433	48,367	19.6
ECONOMICS	53,394	52,095	-2.4	42,393	40,858	-3.6	11,001	11,237	2.1
POLITICAL SCIENCE	31,481	36,403	15.6	23,215	27,683	19.2	8,266	8,720	5.5
SOCIOLOGY	34,146	29,239	-14.4	28,548	21,483	-24.7	5,598	7,756	38.5
OTHER, N.E.C.	53,506	60,823	13.7	37,938	40,169	5.9	15,568	20,654	32.7
OTHER SCIENCES, N.E.C.	62,293	64,663	3.8	47,824	51,039	6.7	14,469	13,624	-5.8

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-15. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND INSTITUTIONAL CATEGORY: FY 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	INSTITUTIONAL CATEGORY 1/				
	DOCTORATE GRANTING	COMPREHENSIVE	GENERAL BACCALAUREATE	PROFESSIONAL AND SPECIALIZED	2-YEAR
TOTAL	6,069,269	413,937	68,869	707,123	1,439
SOURCE OF FUNDS:					
FEDERAL GOVERNMENT	3,993,115	236,884	36,437	481,477	1,351
STATE AND LOCAL GOVERNMENTS	513,748	54,893	6,265	10,653	0
INDUSTRY	249,326	27,123	4,745	44,400	0
INSTITUTIONAL FUNDS	912,183	73,256	17,790	94,288	85
ALL OTHER SOURCES	400,897	21,781	3,632	76,305	3
CHARACTER OF WORK:					
BASIC RESEARCH	4,101,844	230,906	49,047	467,885	1,271
APPLIED RESEARCH AND DEVELOPMENT	1,967,425	183,031	19,822	239,238	168
FIELD:					
ENGINEERING	872,401	62,440	3,870	85,803	0
AERONAUTICAL AND ASTRONAUTICAL	52,005	4,683	206	3,751	0
CHEMICAL	71,054	5,362	109	6,740	0
CIVIL	82,943	7,079	893	17,373	0
ELECTRICAL	191,783	7,928	331	24,284	0
MECHANICAL	115,273	12,878	486	12,876	0
OTHER, N.E.C.	359,343	24,510	1,845	20,779	0
PHYSICAL SCIENCES	744,210	51,821	7,079	19,734	0
ASTRONOMY	72,263	717	313	3	0
CHEMISTRY	269,613	28,049	3,920	9,870	0
PHYSICS	330,508	20,808	2,601	9,346	0
OTHER, N.E.C.	71,826	2,247	245	515	0
ENVIRONMENTAL SCIENCES	454,290	32,372	23,463	48,748	1,271
ATMOSPHERIC	65,255	2,480	8,204	8,495	1,271
EARTH SCIENCES	163,304	13,332	2,172	16,304	0
OCEANOGRAPHY	169,[illegible]	5,600	10,011	12,997	0
OTHER, N.E.C.	55,[illegible]	10,960	3,076	10,952	0
MATHEMATICAL/COMPUTER SCIENCES	219,420	11,833	2,120	10,925	168
MATHEMATICS	84,785	6,196	907	4,233	0
COMPUTER SCIENCES	134,635	5,637	1,213	6,692	168
LIFE SCIENCES	3,211,440	209,403	19,813	529,152	0
AGRICULTURAL SCIENCES	754,499	75,045	8,001	810	0
BIOLOGICAL SCIENCES	1,038,192	70,186	9,409	172,123	0
MEDICAL SCIENCES	1,315,486	59,780	2,095	343,643	0
OTHER, N.E.C.	103,263	4,392	308	12,576	0
PSYCHOLOGY	118,142	8,709	1,481	3,524	0
SOCIAL SCIENCES	307,942	31,919	7,532	6,646	0
ECONOMICS	83,991	5,340	1,867	3,537	0
POLITICAL SCIENCE	55,152	4,020	971	639	0
SOCIOLOGY	67,138	7,648	3,133	1,594	0
OTHER, N.E.C.	101,661	14,907	1,561	876	0
OTHER SCIENCES, N.E.C.	141,424	5,444	3,511	2,591	0

1/ DATA SHOWN FOR DOCTORATE-GRANTING INSTITUTIONS IN THIS NCES CLASSIFICATION OF INSTITUTIONS DIFFERS FROM THE CLASSIFICATION USED ELSEWHERE IN THIS REPORT. SEE TECHNICAL NOTES.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-16. — FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND INSTITUTIONAL CATEGORY: FY 1982

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	INSTITUTIONAL CATEGORY 1/				
	DOCTORATE GRANTING	COMPRE-HENSIVE	GENERAL BACCALAU-REATE	PROFESSIONAL AND SPECIALIZED	2-YEAR
TOTAL	3,993,115	236,884	36,437	481,477	1,351
CHARACTER OF WORK:					
BASIC RESEARCH	2,887,967	151,564	21,157	331,201	1,268
APPLIED RESEARCH AND DEVELOPMENT	1,105,148	85,320	15,280	150,276	83
FIELD:					
ENGINEERING	610,573	36,690	941	48,948	0
AERONAUTICAL AND ASTRONAUTICAL	41,564	3,898	97	2,541	0
CHEMICAL	44,528	1,437	7	3,644	0
CIVIL	45,468	4,067	226	9,252	0
ELECTRICAL	154,071	5,323	24	14,085	0
MECHANICAL	80,845	9,096	34	6,998	0
OTHER, N.E.C.	244,097	12,872	553	12,428	0
PHYSICAL SCIENCES	599,690	34,334	4,383	11,263	0
ASTRONOMY	50,795	695	238	0	0
CHEMISTRY	207,266	16,725	2,138	5,498	0
PHYSICS	282,308	16,111	1,961	5,526	0
OTHER, N.E.C.	59,321	803	46	239	0
ENVIRONMENTAL SCIENCES	323,300	17,576	13,244	36,122	1,268
ATMOSPHERIC	54,639	1,354	5,971	5,214	1,268
EARTH SCIENCES	104,143	8,018	725	13,423	0
OCEANOGRAPHY	136,675	2,795	5,808	9,036	0
OTHER, N.E.C.	28,442	5,409	740	8,449	0
MATHEMATICAL/COMPUTER SCIENCES	165,330	6,206	772	7,097	83
MATHEMATICS	64,648	4,108	206	3,068	0
COMPUTER SCIENCES	100,682	2,098	566	3,939	83
LIFE SCIENCES	1,989,402	121,844	12,063	369,783	0
AGRICULTURAL SCIENCES	218,358	30,560	5,434	339	0
BIOLOGICAL SCIENCES	746,763	43,348	5,855	125,909	0
MEDICAL SCIENCES	954,042	45,774	485	238,504	0
OTHER, N.E.C.	70,239	2,162	289	5,031	0
PSYCHOLOGY	79,758	6,139	912	2,296	0
SOCIAL SCIENCES	144,291	10,993	2,898	4,474	0
ECONOMICS	36,857	1,746	648	2,125	0
POLITICAL SCIENCE	21,108	721	361	412	0
SOCIOLOGY	40,267	2,934	1,479	1,471	0
OTHER, N.E.C.	46,059	5,592	410	466	0
OTHER SCIENCES, N.E.C.	80,771	3,102	1,224	1,584	0

1/ DATA SHOWN FOR DOCTORATE-GRANTING INSTITUTIONS IN THIS NCES CLASSIFICATION OF INSTITUTIONS DIFFERS FROM THE CLASSIFICATION USED ELSEWHERE IN THIS REPORT. SEE TECHNICAL NOTES.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-17. — NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS, CHARACTER OF WORK, SCIENCE/ENGINEERING FIELD, AND INSTITUTIONAL CATEGORY: FY 1982

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	INSTITUTIONAL CATEGORY 1/				
	DOCTORATE GRANTING	COMPREHENSIVE	GENERAL BACCALAUREATE	PROFESSIONAL AND SPECIALIZED	2-YEAR
TOTAL	2,076,154	177,053	32,432	225,646	88
SOURCE OF FUNDS:					
STATE AND LOCAL GOVERNMENTS	713,748	54,893	6,265	10,653	0
INDUSTRY	249,326	27,123	4,745	44,400	0
INSTITUTIONAL FUNDS	912,183	73,256	17,790	94,288	85
ALL OTHER SOURCES	400,897	21,781	3,632	76,305	3
CHARACTER OF WORK:					
BASIC RESEARCH	1,213,877	79,342	27,890	136,684	3
APPLIED RESEARCH AND DEVELOPMENT	862,277	97,711	4,542	88,962	85
FIELD:					
ENGINEERING	261,828	25,750	2,929	36,895	0
AERONAUTICAL AND ASTRONAUTICAL	10,441	788	109	1,210	0
CHEMICAL	26,526	3,925	102	3,096	0
CIVIL	37,475	3,012	667	8,121	0
ELECTRICAL	37,712	2,605	307	10,199	0
MECHANICAL	34,428	3,782	452	5,878	0
OTHER, N.E.C.	115,246	11,638	1,292	8,351	0
PHYSICAL SCIENCES	144,520	17,487	2,696	8,471	0
ASTRONOMY	21,468	22	75	3	0
CHEMISTRY	62,347	11,324	1,782	4,372	0
PHYSICS	48,200	4,697	640	3,820	0
OTHER, N.E.C.	12,505	1,444	199	276	0
ENVIRONMENTAL SCIENCES	130,990	14,796	10,219	12,626	3
ATMOSPHERIC	10,616	1,126	2,233	3,281	3
EARTH SCIENCES	59,761	5,314	1,447	2,881	0
OCEANOGRAPHY	33,569	2,805	4,203	3,961	0
OTHER, N.E.C.	27,044	5,551	2,336	2,503	0
MATHEMATICAL/COMPUTER SCIENCES	54,090	5,627	1,348	3,918	85
MATHEMATICS	20,137	2,088	701	1,165	0
COMPUTER SCIENCES	33,953	3,539	647	2,753	85
LIFE SCIENCES	1,222,038	87,559	7,750	159,369	0
AGRICULTURAL SCIENCES	536,141	44,485	2,567	471	0
BIOLOGICAL SCIENCES	291,429	26,838	3,554	46,214	0
MEDICAL SCIENCES	361,444	14,006	1,610	105,139	0
OTHER, N.E.C.	33,024	2,230	19	7,545	0
PSYCHOLOGY	38,384	2,570	569	1,228	0
SOCIAL SCIENCES	163,651	20,922	4,634	2,172	0
ECONOMICS	47,134	3,594	1,219	1,412	0
POLITICAL SCIENCE	34,044	3,299	610	227	0
SOCIOLOGY	26,871	4,714	1,654	123	0
OTHER, N.E.C.	55,602	9,315	1,151	410	0
OTHER SCIENCES, N.E.C.	60,653	2,342	2,287	1,007	0

1/ DATA SHOWN FOR DOCTORATE-GRANTING INSTITUTIONS IN THIS NCES CLASSIFICATION OF INSTITUTIONS DIFFERS FROM THE CLASSIFICATION USED ELSEWHERE IN THIS REPORT. SEE TECHNICAL NOTES.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-18. — R&D EXPENDITURES AT HISTORICALLY BLACK COLLEGES BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975–82 1/

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1979	1980	1981	1982
TOTAL	21,300	21,491	22,244	31,835	41,035	50,073	58,050
SOURCE OF FUNDS:							
FEDERAL GOVERNMENT	17,775	18,244	19,150	27,175	33,971	40,240	44,351
STATE AND LOCAL GOVERNMENTS	1,213	847	888	1,700	1,982	3,019	5,488
INDUSTRY	184	241	181	568	968	882	1,053
INSTITUTIONAL FUNDS	1,099	1,435	1,224	1,472	2,270	4,083	5,010
ALL OTHER SOURCES	1,029	724	801	920	1,844	1,849	2,148
CHARACTER OF WORK:							
BASIC RESEARCH	12,447	13,576	10,832	20,459	26,545	32,611	41,787
APPLIED RESEARCH AND DEVELOPMENT	8,853	7,915	11,412	11,376	14,490	17,462	16,263
FIELD:							
ENGINEERING 2/	334	503	621	1,716	1,676	2,485	2,592
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	46	242	439
CHEMICAL	-	-	-	-	49	47	33
CIVIL	-	-	-	-	122	392	524
ELECTRICAL	-	-	-	-	305	1,025	905
MECHANICAL	-	-	-	-	337	590	469
OTHER, N.E.C.	-	-	-	-	817	189	222
PHYSICAL SCIENCES	2,467	2,855	2,410	4,186	5,408	7,354	8,333
ASTRONOMY	3	23	35	164	235	155	196
CHEMISTRY	1,777	1,876	1,616	3,024	3,923	5,393	5,988
PHYSICS	679	708	574	750	588	1,371	1,515
OTHER, N.E.C.	8	248	185	248	662	435	634
ENVIRONMENTAL SCIENCES 2/	531	574	633	547	780	2,104	2,798
ATMOSPHERIC	-	-	-	-	2	48	56
EARTH SCIENCES	-	-	-	-	538	1,029	1,164
OCEANOGRAPHY	-	-	-	-	65	281	290
OTHER, N.E.C.	-	-	-	-	125	746	1,288
MATHEMATICAL/COMPUTER SCIENCES	832	523	761	611	969	1,482	2,169
MATHEMATICS	568	303	383	393	589	1,051	1,549
COMPUTER SCIENCES	264	220	378	218	380	431	620
LIFE SCIENCES	12,062	12,348	14,291	20,160	25,851	29,831	34,799
AGRICULTURAL SCIENCES	5,555	5,010	5,137	8,676	9,998	13,208	14,064
BIOLOGICAL SCIENCES	3,116	3,409	4,942	6,495	8,313	10,065	12,181
MEDICAL SCIENCES	3,322	3,285	4,139	3,150	3,321	2,450	2,960
OTHER, N.E.C.	69	644	73	1,839	4,219	4,108	5,594
PSYCHOLOGY	801	621	97	326	377	579	827
SOCIAL SCIENCES	2,915	2,513	2,135	3,645	5,395	5,210	4,785
ECONOMICS	721	208	434	1,047	997	1,311	688
POLITICAL SCIENCE	368	667	272	666	1,201	907	1,104
SOCIOLOGY	1,017	801	702	857	1,947	1,252	1,216
OTHER, N.E.C.	809	837	727	1,075	1,250	1,740	1,777
OTHER SCIENCES, N.E.C.	1,358	1,554	1,296	644	579	1,028	1,747

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-19. -- FEDERALLY FINANCED R&D EXPENDITURES AT HISTORICALLY BLACK COLLEGES, BY CHARACTER OF WORK AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82 1/

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1975	1976	1977	1979	1980	1981	1982
TOTAL	17,775	18,244	19,150	27,175	33,971	40,240	44,351
CHARACTER OF WORK:							
BASIC RESEARCH	10,386	11,781	9,323	17,694	22,164	27,479	33,487
APPLIED RESEARCH AND DEVELOPMENT	7,389	6,463	9,827	9,481	11,807	12,761	10,864
FIELD:							
ENGINEERING 2/	282	410	483	1,231	1,078	2,234	2,262
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	46	241	438
CHEMICAL	-	-	-	-	45	46	33
CIVIL	-	-	-	-	26	351	437
ELECTRICAL	-	-	-	-	166	936	792
MECHANICAL	-	-	-	-	277	521	398
OTHER, N.E.C.	-	-	-	-	518	139	164
PHYSICAL SCIENCES	2,032	2,474	2,020	3,658	4,708	5,994	6,398
ASTRONOMY	2	21	31	164	234	149	186
CHEMISTRY	1,490	1,669	1,297	2,554	3,320	4,324	4,787
PHYSICS	532	629	528	715	548	1,234	1,346
OTHER, N.E.C.	8	155	164	225	606	287	79
ENVIRONMENTAL SCIENCES 2/	489	524	568	536	684	1,555	1,720
ATMOSPHERIC	-	-	-	-	0	32	38
EARTH SCIENCES	-	-	-	-	542	818	912
OCEANOGRAPHY	-	-	-	-	48	183	168
OTHER, N.E.C.	-	-	-	-	94	522	602
MATHEMATICAL/COMPUTER SCIENCES	507	219	373	182	391	725	770
MATHEMATICS	361	109	116	140	232	609	615
COMPUTER SCIENCES	146	110	257	42	159	116	155
LIFE SCIENCES	10,871	10,970	12,849	17,560	22,522	25,920	30,069
AGRICULTURAL SCIENCES	5,276	4,615	4,494	8,033	9,578	12,375	13,012
BIOLOGICAL SCIENCES	2,620	3,128	4,654	5,455	7,273	8,370	10,405
MEDICAL SCIENCES	2,907	2,872	3,637	2,384	2,774	2,173	2,555
OTHER, N.E.C.	68	355	64	1,688	2,897	3,002	4,097
PSYCHOLOGY	400	543	90	313	327	328	543
SOCIAL SCIENCES	2,132	1,648	1,550	3,076	3,748	2,818	2,07[illegible]
ECONOMICS	678	187	424	1,047	952	981	359
POLITICAL SCIENCE	107	140	90	472	200	169	335
SOCIOLOGY	729	632	577	624	1,618	691	686
OTHER, N.E.C.	618	689	459	933	978	977	692
OTHER SCIENCES, N.E.C.	1,052	1,456	1,217	619	513	666	517

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-20. — NON-FEDERAL R&D EXPENDITURES AT HISTORICALLY BLACK COLLEGES, BY SOURCE OF FUNDS, CHARACTER OF WORK, AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82 1/

(DOLLARS IN THOUSANDS)

SOURCE, CHARACTER, AND FIELD	1975	1976	1977	1979	1980	1981	1982
TOTAL NON-FEDERAL	3,525	3,247	3,094	4,660	7,064	9,833	13,699
SOURCE OF FUNDS:							
STATE AND LOCAL GOVERNMENTS	1,213	847	888	1,700	1,982	3,019	5,488
INDUSTRY	144	241	181	568	968	882	1,053
INSTITUTIONAL FUNDS	1,059	1,435	1,224	1,472	2,270	4,083	5,010
ALL OTHER SOURCES	1,029	724	801	920	1,844	1,849	2,148
CHARACTER OF WORK:							
BASIC RESEARCH	2,061	1,795	1,509	2,765	4,381	5,132	8,300
APPLIED RESEARCH AND DEVELOPMENT	1,464	1,452	1,585	1,895	2,683	4,701	5,399
FIELD:							
ENGINEERING 2/	42	93	138	485	598	251	330
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	0	1	1
CHEMICAL	-	-	-	-	4	1	0
CIVIL	-	-	-	-	96	41	87
ELECTRICAL	-	-	-	-	139	89	113
MECHANICAL	-	-	-	-	60	69	71
OTHER, N.E.C.	-	-	-	-	299	50	58
PHYSICAL SCIENCES	435	381	390	528	700	1,360	1,935
ASTRONOMY	1	2	4	0	1	6	10
CHEMISTRY	287	207	319	470	603	1,069	1,201
PHYSICS	147	79	46	35	40	137	169
OTHER, N.E.C.	0	93	21	23	56	148	555
ENVIRONMENTAL SCIENCES 2/	42	50	65	11	96	549	1,078
ATMOSPHERIC	-	-	-	-	2	16	18
EARTH SCIENCES	-	-	-	-	46	211	252
OCEANOGRAPHY	-	-	-	-	17	98	122
OTHER, N.E.C.	-	-	-	-	31	224	686
MATHEMATICAL/COMPUTER SCIENCES	325	304	388	429	578	757	1,399
MATHEMATICS	207	194	267	253	357	442	934
COMPUTER SCIENCES	118	110	121	176	221	315	465
LIFE SCIENCES	1,191	1,378	1,442	2,600	3,329	3,911	4,720
AGRICULTURAL SCIENCES	279	395	643	643	420	833	1,052
BIOLOGICAL SCIENCES	496	281	288	1,040	1,040	1,695	1,776
MEDICAL SCIENCES	415	413	502	766	547	277	405
OTHER, N.E.C.	1	289	9	151	1,322	1,106	1,497
PSYCHOLOGY	401	78	7	13	50	251	284
SOCIAL SCIENCES	783	865	585	569	1,647	2,392	2,713
ECONOMICS	43	21	10	0	45	330	329
POLITICAL SCIENCE	261	527	182	194	1,001	738	769
SOCIOLOGY	288	169	125	233	329	561	530
OTHER, N.E.C.	191	148	268	142	272	763	1,085
OTHER SCIENCES, N.E.C.	306	98	79	25	66	362	1,230

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-21. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY GEOGRAPHIC DISTRIBUTION: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	1975	1976	1977	1978 1/	1979	1980	1981	1982
TOTAL, ALL INSTITUTIONS ...	3,408,691	3,729,007	4,066,953	4,540,256	5,361,408	6,060,118	6,818,343	7,260,637
NEW ENGLAND	329,736	361,316	403,153	452,420	525,155	590,176	690,962	730,073
CONNECTICUT	62,673	71,595	79,348	89,078	105,428	118,198	140,045	152,201
MAINE	8,759	9,632	9,937	11,022	12,593	14,902	17,874	19,221
MASSACHUSETTS	221,922	239,793	265,490	298,231	344,984	386,509	445,596	469,712
NEW HAMPSHIRE	10,063	11,963	13,705	16,332	17,890	19,690	27,451	27,687
RHODE ISLAND	15,730	16,166	21,543	24,121	30,229	34,897	41,240	44,349
VERMONT	10,589	12,167	13,130	13,636	14,031	15,980	18,756	18,903
MIDDLE ATLANTIC	608,774	650,778	704,531	790,382	872,943	979,391	1,086,375	1,189,613
NEW JERSEY	55,805	54,321	59,040	68,387	76,955	85,500	96,387	105,077
NEW YORK	389,842	409,314	443,450	482,103	546,551	613,234	671,638	739,904
PENNSYLVANIA	163,127	187,143	202,041	239,892	249,437	280,657	318,350	344,632
EAST NORTH CENTRAL	546,280	586,745	628,790	712,355	815,364	904,885	1,006,633	1,025,479
ILLINOIS	150,071	162,512	174,328	198,715	218,253	238,817	268,251	282,523
INDIANA	64,022	68,632	69,735	79,991	89,789	101,532	121,741	123,427
MICHIGAN	127,939	137,823	146,973	171,295	200,295	217,297	236,236	226,445
OHIO	93,963	108,391	121,230	136,891	162,108	183,369	202,383	204,106
WISCONSIN	110,285	109,387	116,524	125,463	144,919	163,870	178,022	188,978
WEST NORTH CENTRAL	263,966	292,440	321,789	354,444	401,641	448,895	494,634	535,735
IOWA	47,069	52,374	60,830	67,257	81,264	94,987	103,409	111,011
KANSAS	30,687	34,334	36,939	38,169	43,215	49,474	55,429	56,449
MINNESOTA	70,256	75,536	83,088	94,70[illegible]	106,547	119,471	133,430	146,885
MISSOURI	74,226	81,309	88,176	96,747	104,831	113,375	123,835	130,182
NEBRASKA	24,882	28,305	30,820	34,706	40,746	42,893	47,806	53,096
NORTH DAKOTA	10,111	12,790	13,526	14,070	15,424	17,963	20,715	26,433
SOUTH DAKOTA	6,735	7,792	8,410	8,789	9,614	10,732	10,010	11,679
SOUTH ATLANTIC	448,017	491,284	536,098	576,871	836,425	940,638	1,043,889	1,111,453
DELAWARE	6,982	7,520	9,925	11,575	14,363	16,746	17,202	17,875
DISTRICT OF COLUMBIA	35,028	37,248	41,147	45,506	48,938	56,576	54,928	62,709
FLORIDA	87,590	98,401	105,002	107,629	120,447	140,151	162,244	167,905
GEORGIA	68,626	77,691	84,106	100,308	119,855	136,651	154,686	170,495
MARYLAND	89,935	95,242	104,490	112,697	289,748	318,213	340,572	350,946
NORTH CAROLINA	89,188	92,330	99,380	101,864	122,674	133,628	158,297	165,723
SOUTH CAROLINA	18,316	19,939	21,813	23,452	30,490	34,366	36,781	47,910
VIRGINIA	44,825	51,012	58,551	62,765	74,453	86,706	99,281	106,073
WEST VIRGINIA	7,527	11,901	11,684	11,075	15,457	17,621	19,898	21,817
EAST SOUTH CENTRAL	123,385	130,820	141,414	160,508	188,644	203,521	240,152	248,513
ALABAMA	37,918	37,870	42,340	45,734	55,913	60,534	67,811	70,778
KENTUCKY	21,414	22,938	27,620	33,148	37,994	38,512	43,894	48,104
MISSISSIPPI	23,909	26,195	25,445	29,563	35,119	40,302	46,990	50,203
TENNESSEE	40,144	43,817	46,009	52,063	59,618	64,173	81,457	79,428
WEST SOUTH CENTRAL	281,131	288,372	320,340	375,359	441,680	504,460	584,158	637,753
ARKANSAS	13,817	16,000	16,789	20,605	28,247	30,283	30,316	35,948
LOUISIANA	39,218	43,053	45,279	57,230	63,354	74,152	88,839	97,505
OKLAHOMA	21,513	23,156	26,289	30,579	35,081	48,167	67,876	70,984
TEXAS	176,583	206,163	231,983	266,945	314,998	351,858	397,127	433,316
MOUNTAIN	196,941	221,211	243,022	277,067	334,962	382,914	437,118	465,261
ARIZONA	33,539	37,198	41,827	49,805	67,125	77,163	91,600	101,075
COLORADO	65,897	73,308	77,519	86,832	104,564	123,008	135,502	136,939
IDAHO	11,877	13,704	15,215	13,442	13,985	14,434	21,607	17,865
MONTANA	10,831	13,254	14,168	15,548	17,993	18,309	20,505	20,272
NEVADA	7,824	9,404	9,043	10,500	12,616	13,933	11,917	18,440
NEW MEXICO	21,745	24,437	29,386	38,501	51,614	58,330	67,286	74,086
UTAH	37,500	40,789	44,792	52,275	57,297	65,788	75,232	81,962
WYOMING	7,728	9,117	11,072	10,160	9,768	11,049	13,469	14,622
PACIFIC	627,145	691,829	752,459	825,466	926,323	1,085,111	1,209,770	1,288,737
ALASKA	21,139	28,748	35,175	39,367	36,947	42,154	36,652	38,218
CALIFORNIA	458,436	500,756	537,838	585,822	662,485	784,051	890,909	946,762
HAWAII	24,596	28,049	28,900	31,971	35,703	40,593	42,997	43,439
OREGON	39,699	47,081	51,530	56,129	62,884	72,307	80,020	89,975
WASHINGTON	83,275	87,195	99,016	112,177	128,304	146,006	159,192	170,343
OUTLYING AREAS	13,316	14,212	15,357	15,384	18,271	21,027	24,652	26,020

1/ DATA WERE COLLECTED ONLY FROM DOCTORATE-GRANTING INSTITUTIONS.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-22. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY GEOGRAPHIC DISTRIBUTION: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	1975	1976	1977	1978 1/	1979	1980	1981	1982
TOTAL, ALL INSTITUTIONS ...	2,283,070	2,511,867	2,726,126	3,004,930	3,595,271	4,093,586	4,559,049	4,749,264
NEW ENGLAND	256,055	281,722	312,537	358,011	414,806	467,956	540,758	559,411
CONNECTICUT	45,530	53,780	58,917	68,860	80,461	92,553	109,088	113,484
MAINE	4,046	4,080	4,171	5,392	6,569	6,020	7,744	8,331
MASSACHUSETTS	177,892	191,615	210,723	240,439	279,354	313,881	354,796	368,394
NEW HAMPSHIRE	7,699	9,038	9,547	11,431	13,085	14,640	19,236	19,568
RHODE ISLAND	13,608	14,173	19,361	21,731	25,133	29,222	36,490	36,745
VERMONT	7,280	9,036	9,818	10,158	10,204	11,640	13,404	12,889
MIDDLE ATLANTIC	417,040	452,972	484,197	538,386	590,063	667,608	756,905	807,983
NEW JERSEY	32,375	32,553	34,847	40,846	44,692	51,243	59,530	61,513
NEW YORK	275,659	294,065	315,084	334,141	372,476	419,149	469,684	506,593
PENNSYLVANIA	109,006	126,354	134,266	163,399	172,895	197,216	227,691	239,877
EAST NORTH CENTRAL	345,137	377,501	403,576	446,910	511,367	585,487	647,711	655,031
ILLINOIS	106,551	116,558	127,336	134,862	147,669	168,204	186,405	190,779
INDIANA	43,916	45,802	47,360	55,131	60,466	68,461	80,341	81,978
MICHIGAN	78,622	78,115	84,453	99,129	112,110	127,917	136,496	131,503
OHIO	60,597	68,179	73,119	80,770	102,148	118,644	132,731	134,120
WISCONSIN	55,451	58,847	71,308	77,018	88,924	102,261	111,738	116,651
WEST NORTH CENTRAL	148,034	160,279	176,329	187,814	208,978	245,375	268,873	278,114
IOWA	25,139	26,769	31,334	34,217	40,960	50,687	54,515	57,080
KANSAS	16,762	17,330	18,998	15,497	17,371	25,737	29,513	24,666
MINNESOTA	42,065	45,238	48,628	53,265	61,398	68,690	78,031	83,223
MISSOURI	47,876	52,097	56,434	60,646	64,292	71,010	77,693	80,459
NEBRASKA	8,904	10,853	11,905	14,587	14,435	17,499	17,133	18,701
NORTH DAKOTA	4,373	4,791	5,722	5,666	6,307	6,889	8,040	9,904
SOUTH DAKOTA	2,915	3,201	3,308	3,936	4,215	4,863	3,948	3,881
SOUTH ATLANTIC	284,986	317,240	340,217	365,417	597,794	657,691	731,756	774,879
DELAWARE	3,652	4,348	5,544	6,787	8,117	9,180	9,413	9,540
DISTRICT OF COLUMBIA	26,284	28,685	30,442	35,282	35,946	37,954	40,382	47,344
FLORIDA	48,162	56,008	55,836	59,642	71,927	73,338	91,536	87,916
GEORGIA	33,072	38,403	43,297	50,587	62,786	71,572	80,923	86,935
MARYLAND	69,483	73,928	78,841	86,322	260,672	283,458	303,806	321,067
NORTH CAROLINA	62,896	65,335	69,284	66,931	82,010	94,046	108,809	116,968
SOUTH CAROLINA	7,773	8,958	11,084	10,998	15,655	18,123	19,274	25,589
VIRGINIA	28,106	33,742	39,437	42,388	51,833	58,713	66,596	68,592
WEST VIRGINIA	5,558	7,833	6,452	6,480	8,848	9,307	11,017	10,928
EAST SOUTH CENTRAL	78,236	80,612	84,353	96,374	104,056	116,037	138,537	137,334
ALABAMA	26,695	26,515	27,965	30,376	34,121	39,116	45,234	46,476
KENTUCKY	11,488	11,059	11,832	19,647	16,782	17,944	19,066	20,160
MISSISSIPPI	9,533	10,381	10,711	10,721	12,849	15,737	18,409	17,914
TENNESSEE	30,520	32,657	33,845	35,630	40,304	43,240	55,828	52,784
WEST SOUTH CENTRAL	141,949	161,721	183,996	203,806	240,433	277,501	305,966	321,213
ARKANSAS	5,281	6,639	7,807	7,889	7,677	9,328	9,427	12,382
LOUISIANA	17,156	18,603	19,460	18,829	24,055	29,001	36,032	36,440
OKLAHOMA	11,081	12,952	14,434	14,834	14,778	24,005	22,491	25,273
TEXAS	108,431	123,527	142,295	162,254	193,923	215,167	238,016	247,118
MOUNTAIN	135,956	150,355	161,163	183,660	219,328	258,284	289,807	302,213
ARIZONA	17,353	20,461	23,017	26,208	36,255	41,876	51,089	52,395
COLORADO	52,149	56,051	57,891	65,048	76,337	92,540	100,837	101,841
IDAHO	5,005	5,834	6,560	5,898	6,554	6,942	9,871	12,625
MONTANA	5,059	7,046	7,593	7,829	8,268	9,657	11,227	9,639
NEVADA	2,870	2,851	4,207	4,227	5,584	6,654	6,780	8,975
NEW MEXICO	18,095	20,218	22,942	29,753	37,842	46,454	49,817	53,385
UTAH	30,356	31,937	31,703	38,542	42,690	47,928	53,337	56,034
WYOMING	5,069	5,957	7,250	6,155	5,798	6,233	6,849	7,319
PACIFIC	475,086	522,873	572,487	617,254	698,616	806,378	866,751	900,522
ALASKA	12,047	18,429	24,664	26,591	25,431	26,587	18,995	19,055
CALIFORNIA	360,624	396,007	424,321	451,132	515,369	602,736	656,672	677,912
HAWAII	15,540	17,578	17,945	19,781	22,500	25,833	25,153	26,616
OREGON	27,090	30,930	32,890	34,975	39,311	45,099	49,269	53,485
WASHINGTON	59,785	59,929	72,667	84,775	96,005	106,123	116,662	123,454
OUTLYING AREAS	5,591	6,592	7,271	7,298	9,830	11,269	11,985	12,564

1/ DATA WERE COLLECTED ONLY FROM DOCTORATE-GRANTING INSTITUTIONS.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-23. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY GEOGRAPHIC DISTRIBUTION AND SOURCE OF FUNDS: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	TOTAL	FEDERAL GOVERNMENT	STATE AND LOCAL GOVERNMENTS	INDUSTRY	INSTITUTIONAL FUNDS	ALL OTHER SOURCES
TOTAL, ALL INSTITUTIONS ...	7,260,637	4,749,264	585,559	325,594	1,097,602	502,618
NEW ENGLAND ...	732,073	559,411	20,871	37,044	52,613	62,134
CONNECTICUT ...	152,201	113,484	4,065	2,607	20,481	11,484
MAINE ...	19,221	8,331	3,094	1,181	5,626	989
MASSACHUSETTS ...	469,712	368,394	5,946	29,098	20,208	46,066
NEW HAMPSHIRE ...	27,687	19,568	1,593	473	3,493	2,560
RHODE ISLAND ...	44,349	36,745	4,700	2,236	468	200
VERMONT ...	18,903	12,889	1,473	1,369	2,337	835
MIDDLE ATLANTIC ...	1,189,613	807,983	44,818	57,903	166,021	112,888
NEW JERSEY ...	105,077	61,513	8,483	4,007	23,438	7,636
NEW YORK ...	739,904	506,593	31,622	27,867	99,936	73,886
PENNSYLVANIA ...	344,632	239,877	4,713	26,029	42,647	31,366
EAST NORTH CENTRAL ...	1,025,479	655,031	87,702	45,567	159,766	77,413
ILLINOIS ...	282,523	190,779	11,978	5,850	51,084	22,832
INDIANA ...	123,427	81,978	9,746	10,096	16,616	4,991
MICHIGAN ...	226,445	131,503	16,835	13,411	49,814	14,882
OHIO ...	204,106	134,120	16,105	11,010	20,050	22,821
WISCONSIN ...	188,978	116,651	33,038	5,200	22,202	11,887
WEST NORTH CENTRAL ...	535,735	278,114	75,011	18,855	132,416	31,339
IOWA ...	111,011	57,080	15,838	3,721	29,699	4,673
KANSAS ...	56,449	24,666	19,168	1,411	8,251	2,953
MINNESOTA ...	146,885	83,223	15,412	4,764	32,821	10,665
MISSOURI ...	130,182	80,659	9,774	4,749	25,268	9,732
NEBRASKA ...	53,096	18,701	1,742	2,055	28,315	2,283
NORTH DAKOTA ...	26,433	9,904	12,460	1,330	2,535	204
SOUTH DAKOTA ...	11,679	3,881	617	825	5,527	829
SOUTH ATLANTIC ...	1,111,453	774,879	77,492	48,572	166,824	43,686
DELAWARE ...	17,875	9,540	655	1,102	5,450	1,128
DISTRICT OF COLUMBIA ...	62,709	47,344	493	2,452	7,198	5,222
FLORIDA ...	167,905	87,916	9,325	8,889	52,602	9,173
GEORGIA ...	170,495	86,935	4,667	16,195	60,196	2,502
MARYLAND ...	350,946	321,067	6,082	1,411	9,448	12,938
NORTH CAROLINA ...	165,723	116,968	30,663	4,527	8,275	5,290
SOUTH CAROLINA ...	47,910	25,589	911	3,364	16,625	1,421
VIRGINIA ...	106,073	68,592	16,625	9,914	6,642	4,300
WEST VIRGINIA ...	21,817	10,928	8,071	718	388	1,712
EAST SOUTH CENTRAL ...	248,513	137,334	43,387	15,106	42,035	10,651
ALABAMA ...	70,778	46,476	9,804	4,208	6,961	3,329
KENTUCKY ...	48,104	20,160	10,101	3,645	13,692	506
MISSISSIPPI ...	50,203	17,914	14,930	2,206	12,654	2,499
TENNESSEE ...	79,428	52,784	8,552	5,047	8,728	4,317
WEST SOUTH CENTRAL ...	637,753	321,213	96,928	32,082	134,622	52,908
ARKANSAS ...	35,948	12,382	9,664	1,749	10,273	1,880
LOUISIANA ...	97,505	36,440	29,302	5,059	21,846	4,858
OKLAHOMA ...	70,984	25,273	2,681	4,499	37,861	670
TEXAS ...	433,316	247,118	55,281	20,775	64,642	45,500
MOUNTAIN ...	465,261	302,213	52,773	34,173	51,996	24,106
ARIZONA ...	101,075	52,395	18,202	9,510	15,609	5,359
COLORADO ...	136,939	101,841	8,640	10,885	8,713	6,860
IDAHO ...	17,865	12,625	1,788	1,630	1,146	676
MONTANA ...	20,272	9,639	5,825	1,354	3,454	0
NEVADA ...	18,440	8,975	352	2,588	5,757	768
NEW MEXICO ...	74,086	53,385	7,452	3,431	3,911	5,907
UTAH ...	81,962	56,034	10,210	3,463	7,740	4,515
WYOMING ...	14,622	7,319	304	1,312	5,666	21
PACIFIC ...	1,288,737	900,522	79,783	36,274	184,750	87,408
ALASKA ...	38,218	19,055	3,242	2,882	12,492	547
CALIFORNIA ...	946,762	677,912	22,892	19,411	159,631	66,916
HAWAII ...	43,439	26,616	14,376	260	1,445	742
OREGON ...	89,975	53,485	14,719	5,483	9,560	6,728
WASHINGTON ...	170,343	123,454	24,554	8,238	1,622	12,475
OUTLYING AREAS ...	26,020	12,564	6,794	18	6,559	85

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-24. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY GEOGRAPHIC DISTRIBUTION AND SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS ...	7,260,637	1,024,514	822,844	560,144	244,466	3,969,808	131,856	354,035	152,970
NEW ENGLAND	732,073	122,881	112,256	80,620	19,925	337,891	15,834	32,735	9,931
CONNECTICUT	152,201	9,523	15,237	2,319	3,657	109,728	5,230	6,499	8
MAINE	19,221	1,931	1,523	3,369	159	9,086	236	1,952	965
MASSACHUSETTS	469,712	100,400	86,561	55,077	13,374	175,687	9,338	22,031	7,244
NEW HAMPSHIRE	27,687	2,624	4,213	2,210	269	16,483	259	283	1,346
RHODE ISLAND	44,349	7,990	3,827	17,635	2,399	10,241	558	1,699	0
VERMONT	18,903	413	895	10	67	16,666	213	271	368
MIDDLE ATLANTIC	1,189,613	150,673	132,801	60,850	49,756	681,000	26,242	69,454	18,937
NEW JERSEY	105,077	16,194	17,171	7,879	5,045	38,925	4,948	11,120	3,795
NEW YORK	739,904	75,806	83,587	41,170	22,082	460,996	17,117	34,084	5,062
PENNSYLVANIA	344,632	58,673	32,043	11,801	22,629	181,079	4,077	24,250	10,080
EAST NORTH CENTRAL	1,025,479	159,122	132,889	47,318	26,922	534,529	28,340	69,013	27,346
ILLINOIS	282,523	37,665	43,494	16,574	9,975	140,118	5,873	19,840	8,984
INDIANA	123,427	25,467	25,345	1,921	2,883	56,724	2,818	5,909	2,360
MICHIGAN	226,445	28,308	25,976	7,529	3,682	127,454	9,476	23,227	793
OHIO	204,106	46,494	20,193	3,724	4,152	109,445	3,506	6,120	10,472
WISCONSIN	188,978	21,188	17,881	17,570	6,230	100,788	6,667	13,917	4,737
WEST NORTH CENTRAL	535,735	53,531	33,867	19,296	12,672	368,482	11,713	22,132	14,042
IOWA	111,011	16,396	10,299	961	5,502	68,167	1,283	4,695	3,708
KANSAS	56,449	6,314	2,918	3,136	497	28,806	4,863	2,224	7,691
MINNESOTA	146,885	12,786	9,267	2,611	1,898	110,803	3,382	4,616	1,522
MISSOURI	130,182	11,689	5,940	3,715	4,256	97,729	1,522	4,865	466
NEBRASKA	53,096	3,553	4,552	5,935	457	35,877	407	1,825	490
NORTH DAKOTA	24,433	1,800	645	1,710	54	19,591	251	2,382	0
SOUTH DAKOTA	11,679	993	246	1,228	8	7,509	5	1,525	165
SOUTH ATLANTIC	1,111,453	208,913	127,707	89,839	72,384	531,280	13,438	49,087	18,805
DELAWARE	17,875	4,493	1,643	3,235	438	4,699	154	489	2,724
DISTRICT OF COLUMBIA	62,709	5,133	6,132	253	3,114	35,018	357	6,049	6,648
FLORIDA	167,905	21,411	12,566	25,834	6,846	87,786	3,343	7,285	2,827
GEORGIA	170,495	52,617	10,009	6,686	7,608	77,785	2,084	12,249	1,457
MARYLAND	350,946	81,589	73,365	34,838	48,563	99,760	1,682	6,320	4,829
NORTH CAROLINA	165,723	13,327	8,747	8,970	3,009	119,361	4,011	8,232	66
SOUTH CAROLINA	47,910	7,053	4,813	3,013	900	28,774	883	2,474	0
VIRGINIA	106,073	18,636	9,376	6,473	1,746	65,198	785	3,605	254
WEST VIRGINIA	21,817	4,642	1,056	537	160	12,899	139	2,384	0
EAST SOUTH CENTRAL	248,513	23,831	13,724	6,519	1,877	187,863	2,447	10,597	1,655
ALABAMA	70,778	4,268	2,706	1,148	180	62,116	15	189	156
KENTUCKY	48,104	7,972	1,394	1,239	326	34,374	539	1,409	851
MISSISSIPPI	50,203	5,184	2,990	866	245	37,328	107	3,087	396
TENNESSEE	79,428	6,407	6,634	3,266	1,126	54,045	1,786	5,912	252
WEST SOUTH CENTRAL	637,753	75,264	60,851	39,353	16,314	387,303	4,634	25,538	28,496
ARKANSAS	35,948	3,249	3,115	329	1,130	24,302	179	2,356	1,288
LOUISIANA	97,505	8,479	6,642	7,342	2,397	67,377	332	4,649	287
OKLAHOMA	70,934	13,568	5,271	3,118	4,011	35,158	1,180	5,954	2,724
TEXAS	433,316	49,968	45,823	28,564	8,776	260,466	2,943	12,579	24,197
MOUNTAIN	465,261	87,419	57,825	52,178	14,145	211,121	7,342	30,144	5,087
ARIZONA	101,075	9,682	22,109	15,693	1,629	43,397	1,158	6,983	424
COLORADO	136,939	21,200	20,351	11,674	2,115	62,087	4,718	11,996	2,798
IDAHO	17,865	1,616	220	879	75	13,841	1	1,216	17
MONTANA	20,272	2,132	2,258	1,475	121	12,671	308	1,095	212
NEVADA	18,440	713	310	6,176	26	9,388	76	1,051	0
NEW MEXICO	74,086	28,318	3,362	7,020	8,379	22,427	567	4,010	3
UTAH	81,462	22,326	7,423	5,618	1,790	40,148	336	2,819	1,432
WYOMING	14,622	1,432	1,792	2,873	10	7,162	178	974	201
PACIFIC	1,288,737	142,657	149,614	163,036	29,619	709,332	21,790	44,051	28,638
ALASKA	38,218	2,022	344	21,623	258	8,497	0	2,621	2,853
CALIFORNIA	946,762	123,533	121,410	98,378	25,468	525,505	18,604	32,346	1,518
HAWAII	43,439	1,930	8,756	11,742	135	14,502	129	1,472	4,773
OREGON	89,975	3,648	9,570	15,453	766	55,879	911	2,726	1,022
WASHINGTON	170,343	11,524	9,534	15,840	2,992	104,949	2,146	4,886	18,472
OUTLYING AREAS	26,020	223	1,310	1,135	852	21,007	176	1,284	33

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-25. -- PERCENT DISTRIBUTION OF R&D EXPENDITURES BY UNIVERSITIES AND COLLEGES WITH LARGEST R&D PROGRAMS AND SOURCE OF FUNDS: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	7,260,637	4,749,264	585,559	325,594	1,097,602	502,618
			PERCENT DISTRIBUTION			
TOTAL, 1ST 10 INSTS.	21.9	25.8	13.6	16.9	11.3	20.7
TOTAL, 1ST 20 INSTS.	35.5	39.6	24.4	21.9	26.0	39.4
TOTAL, 1ST 30 INSTS.	45.9	49.3	35.3	39.3	38.1	47.3
TOTAL, 1ST 40 INSTS.	54.3	56.4	50.3	47.2	48.6	55.8
TOTAL, 1ST 50 INSTS.	60.9	63.5	62.7	53.1	55.9	62.2
TOTAL, 1ST 60 INSTS.	66.7	68.6	61.4	58.6	63.8	66.2
TOTAL, 1ST 70 INSTS.	71.7	72.8	69.9	63.7	70.5	71.1
TOTAL, 1ST 80 INSTS.	76.2	77.8	75.7	67.8	72.1	75.5
TOTAL, 1ST 90 INSTS.	79.8	81.0	80.4	71.5	77.6	77.8
TOTAL, 1ST 100 INSTS.	82.7	83.9	83.0	74.9	80.5	80.4
TOTAL, 1ST 110 INSTS.	85.2	86.3	86.3	78.8	83.3	82.8
TOTAL, 1ST 120 INSTS.	87.4	88.3	89.7	81.5	85.7	84.6
TOTAL, 1ST 130 INSTS.	89.3	90.0	91.0	83.5	87.3	88.7
TOTAL, 1ST 140 INSTS.	91.0	91.6	91.6	85.0	90.1	90.2
TOTAL, 1ST 150 INSTS.	92.4	93.0	94.4	86.6	91.1	92.6
TOTAL, 1ST 160 INSTS.	93.5	93.9	96.7	88.3	93.0	93.1
TOTAL, 1ST 170 INSTS.	94.4	94.9	98.0	89.3	94.1	94.2
TOTAL, 1ST 180 INSTS.	95.2	95.7	94.4	91.1	94.7	95.0
TOTAL, 1ST 190 INSTS.	96.0	96.4	95.2	91.9	95.6	95.8
TOTAL, 1ST 200 INSTS.	96.6	97.0	95.7	93.8	96.0	96.1
TOTAL, ALL OTHER INSTS.	3.4	3.0	4.3	6.2	4.0	3.9

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-26. -- PERCENT DISTRIBUTION OF R&D EXPENDITURES BY UNIVERSITIES AND COLLEGES WITH LARGEST R&D PROGRAMS AND SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	7,260,637	1,024,514	822,844	560,144	244,466	3,969,808	131,856	354,035	152,970
				PERCENT DISTRIBUTION					
TOTAL, 1ST 10 INSTS.	21.9	28.2	26.6	30.3	33.8	17.7	24.3	18.4	18.7
TOTAL, 1ST 20 INSTS.	35.5	38.9	39.8	39.0	43.2	32.6	35.9	35.1	39.5
TOTAL, 1ST 30 INSTS.	45.9	55.2	49.8	46.7	52.9	42.5	43.0	42.5	49.0
TOTAL, 1ST 40 INSTS.	54.3	61.0	55.7	53.3	61.1	52.5	51.8	49.6	53.5
TOTAL, 1ST 50 INSTS.	60.9	63.4	59.2	58.8	63.7	61.5	59.1	53.6	59.0
TOTAL, 1ST 60 INSTS.	66.7	68.9	66.3	64.0	68.1	67.3	63.8	58.9	67.2
TOTAL, 1ST 70 INSTS.	71.7	73.9	69.9	70.9	77.8	72.0	66.7	63.4	75.2
TOTAL, 1ST 80 INSTS.	76.2	78.0	74.2	77.9	80.0	76.7	68.0	66.3	79.1
TOTAL, 1ST 90 INSTS.	79.8	81.3	77.0	81.8	84.1	80.4	71.1	69.6	83.4
TOTAL, 1ST 100 INSTS.	82.7	84.4	80.2	83.8	87.4	83.2	77.7	73.4	84.9
TOTAL, 1ST 110 INSTS.	85.2	86.3	81.4	85.0	88.4	86.6	79.6	74.8	89.5
TOTAL, 1ST 120 INSTS.	87.4	87.6	82.3	85.8	88.7	89.6	81.0	77.3	90.2
TOTAL, 1ST 130 INSTS.	89.3	89.5	85.0	87.4	90.1	91.3	83.6	79.5	92.4
TOTAL, 1ST 140 INSTS.	91.0	91.1	87.4	88.4	92.2	92.7	86.6	83.5	92.8
TOTAL, 1ST 150 INSTS.	92.4	91.3	89.4	89.2	92.6	94.5	87.7	84.2	93.7
TOTAL, 1ST 160 INSTS.	93.5	93.3	90.3	91.4	93.3	95.2	88.8	86.4	94.5
TOTAL, 1ST 170 INSTS.	94.4	93.9	91.0	92.2	93.5	96.4	90.1	87.2	95.1
TOTAL, 1ST 180 INSTS.	95.2	94.7	92.3	94.0	93.7	97.0	90.5	88.1	96.1
TOTAL, 1ST 190 INSTS.	96.0	96.3	93.5	94.8	95.0	97.3	91.6	89.8	97.0
TOTAL, 1ST 200 INSTS.	96.6	97.3	94.3	95.0	95.5	97.8	91.9	90.6	97.6
TOTAL, ALL OTHER INSTS.	3.4	2.7	5.7	5.0	4.5	2.2	8.1	9.4	2.4

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	7,260,637	6,818,343	6,060,118	5,361,408	4,749,264	4,559,049	4,093,586	3,595,271
1 JOHNS HOPKINS UNIVERSITY 1/	289,940	270,490	253,204	237,725	271,223	256,535	239,855	224,216E
2 MASS INST OF TECHNOLOGY 2/	192,462	184,335	163,566	141,596	157,191	152,372	138,400	120,971
3 UNIV OF WIS-MADISON	157,520	147,535	138,196	122,213	101,019	96,240	89,331	78,082
4 STANFORD UNIVERSITY 2/	147,941	129,832	113,120	101,681	120,099	116,682	102,645	91,511
5 UNIVERSITY OF MINNESOTA	146,466	133,057	119,065	106,077	83,044	77,850	68,463	61,150
6 CORNELL UNIVERSITY 2/	145,769	123,275	107,611	100,295	90,538	81,903	70,983	67,001
7 UNIV OF CAL SAN DIEGO	138,894	137,835	124,830	107,750	116,200	119,304	111,038	96,375
8 UNIVERSITY OF WASHINGTON	133,115	124,822	111,858	98,967	109,058	103,986	93,109	83,276
9 UNIVERSITY OF MICHIGAN	119,973	133,085	111,316	107,035	74,656	84,342	75,549	67,396
10 COLUMBIA UNIV MAIN DIV	115,734	100,746	101,407	82,831	101,974	85,407	83,729	67,012
TOTAL, 1ST 10 INSTS.	1,587,814	1,485,012	1,344,173	1,206,170	1,225,002	1,174,621	1,072,702	956,990
11 HARVARD UNIVERSITY	114,941E	111,697E	100,901E	89,008E	87,051	84,594	76,377	67,374
12 UNIV OF PENNSYLVANIA	112,836	104,430	94,198	81,961	81,014	80,373	70,553	58,941
13 UNIV OF CAL LOS ANGELES	103,294	97,314	88,934	75,496	78,222	74,178	70,365	60,102
14 UNIV OF CAL BERKELEY 2/	102,369	98,898	90,377	75,344	67,208	65,877	64,127	53,520
15 UNIV OF ILL URBANA	95,869	93,299	83,274	75,972	57,247	56,616	52,327	44,674
16 UNIV OF CAL SAN FRANCISCO	95,282	89,209	73,426	61,140	75,536	72,522	61,172	51,271
17 UNIV OF TEXAS AT AUSTIN	92,069	82,401	78,621	69,695	52,606	49,472	48,566	45,641
18 TEXAS A & M UNIVERSITY	91,780	84,285	71,467	63,271	37,221	38,452	31,860	28,227
19 YALE UNIVERSITY	91,232	84,444	71,446	63,996	76,217	74,000	63,572	54,970
20 UNIV OF CAL DAVIS	89,784	83,945	68,429	55,799	42,535	39,289	35,078	27,949
TOTAL, 1ST 20 INSTS.	2,577,270	2,414,934	2,165,240	1,917,852	1,879,859	1,809,999	1,646,799	1,449,576
21 UNIVERSITY OF ARIZONA	88,247	80,726	69,095	58,140	44,113	42,412	35,559	31,426
22 UNIV OF SOUTHERN CAL	87,140	76,834	74,304	59,077	55,101	48,243	50,001	43,939
23 OHIO STATE UNIVERSITY	82,614	78,492	70,652	62,747	45,990	45,929	40,555	35,181
24 PENNSYLVANIA STATE UNIV	82,034	80,194	71,840	64,054	53,023	49,737	45,001	40,859
25 MICHIGAN STATE UNIVERSITY	71,922	68,222	72,354	62,666	38,320	33,224	34,830	27,827
26 GEORGIA INSTITUTE OF TECH	71,402	65,078	56,653	46,366	38,632	36,090	32,827	27,355
27 UNIVERSITY OF CHICAGO 2/	69,018	64,822	58,436	46,917	57,600	56,338	50,118	45,620
28 UNIVERSITY OF FLORIDA	68,370	60,073	56,656E	48,850	33,178	29,215	23,627E	26,060
29 WASHINGTON UNIVERSITY	68,049	62,383	59,379	53,551	55,608	51,712	47,756	42,319
30 PURDUE UNIVERSITY	67,299	73,723	61,765	55,101	41,949	42,757	38,041	33,497
TOTAL, 1ST 30 INSTS.	3,333,365	3,125,481	2,816,374	2,487,321	2,343,373	2,245,656	2,045,114	1,803,659
31 LOUISIANA STATE UNIV	66,814	60,293	53,058	44,803	18,220	19,165	15,868	13,018
32 UNIVERSITY OF COLORADO	66,377E	66,109E	62,056	47,540	53,985E	52,727E	48,632	35,631
33 NEW YORK UNIVERSITY	66,139	62,226	56,739	54,163	48,503	47,180	43,705	40,621
34 UNIVERSITY OF ROCHESTER 2/	65,547	66,148	65,845	60,067	50,233	45,845	43,890	39,043
35 UNIVERSITY OF GEORGIA	65,161	60,523	55,595	50,042	21,703	20,729	17,953	15,433
36 OREGON STATE UNIVERSITY	56,769	53,077	44,713	39,387	32,308	29,045	24,669	21,238
37 N C STATE UNIV AT RALEIGH	55,781	50,283	42,725	40,000	21,217	18,420	15,611	13,190
38 UNIVERSITY OF IOWA	55,406	50,601	45,032	35,055	38,271	36,279	33,603	25,504
39 IOWA ST U OF SCI & TECH 2/	55,294	52,313	49,459	45,747	18,659	17,916	16,819	15,209
40 UNIVERSITY OF CONNECTICUT	55,109	50,054	44,248	38,964	33,229	31,160	27,510	23,938
TOTAL, 1ST 40 INSTS.	3,941,762	3,697,108	3,335,844	2,943,089	2,679,701	2,564,122	2,333,374	2,046,484
41 YESHIVA UNIVERSITY	52,235	45,400	42,666	35,093	44,759	40,700	31,540	28,513
42 UNIVERSITY OF MIAMI	51,899	55,512	41,450	39,988	34,090	39,005	29,268	28,829
43 DUKE UNIVERSITY	49,655E	46,407	39,066	36,985	47,238E	41,408	36,165	31,817
44 BAYLOR COL OF MEDICINE	48,661	44,733	37,908	33,676	35,852	34,054	31,211	26,304
45 UNIV OF NC AT CHAPEL HILL	47,711	49,109	38,924	33,501	39,235	39,011	31,580	26,971
46 COLORADO STATE UNIVERSITY	46,641	45,567	40,678	36,945	29,961	30,796	28,488	25,570
47 UNIVERSITY OF PITTSBURGH	46,548	39,165	31,863	30,001	34,772	29,108	23,327	21,700
48 ROCKEFELLER UNIVERSITY	46,172	41,619	38,089	35,643	21,213	20,026	19,290	17,297
49 NORTHWESTERN UNIVERSITY	45,810	43,019	42,617	36,951	32,728	32,345	31,971	28,280
50 UNIV OF NEBRASKA-LINCOLN	44,172	38,824	32,607	30,897	13,890	11,303	10,380	7,925
TOTAL, 1ST 50 INSTS.	4,421,266	4,146,463	3,721,712	3,292,769	3,013,439	2,881,878	2,606,594	2,289,690

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 CALIFORNIA INST OF TECH 2/	44,048	47,255	43,259	36,996	39,382	41,915	38,330	32,602
52 UNIVERSITY OF UTAH	43,765	42,632	37,175	35,865	35,019	35,319	31,588	30,205
53 UNIV OF HAWAII-MANOA	43,439	42,997	40,593	35,703	26,616	25,153	25,833	22,500
54 CASE WESTERN RESERVE UNIV	43,129	42,791	40,688	35,535	34,047	32,864	29,721	25,290
55 RUTGERS THE ST UNIV OF NJ	42,938	40,279	36,335	33,280	18,643	18,943	16,159	14,507
56 INDIANA UNIVERSITY	42,558	34,125	30,307	27,397	28,663	25,644	22,278	20,804
57 UNIV OF MISSOURI COLUMBIA	40,978	40,703	34,620	33,593	15,604	15,934	13,603	13,017
58 U TEXAS SYSTEM CANCER CTR	40,369	39,205	34,920	34,715	17,560	19,075	18,471	19,708
59 VA POLYTECH INST & ST U	39,909	37,933	33,604	29,223	17,967	18,490	16,380	13,678
60 OKLAHOMA STATE UNIVERSITY	39,472	33,782	23,417	20,332	10,991	7,672	11,107	5,268
TOTAL, 1ST 60 INSTS.	4,841,871	4,548,165	4,076,630	3,615,408	3,297,931	3,122,887	2,830,064	2,487,269
61 UNIVERSITY OF KENTUCKY	38,907	35,755	30,013	29,683	15,010	13,965	13,093	12,643
62 UNIV OF ALASKA FAIRBANKS	38,218	36,652	42,154	36,947	19,055	18,995	26,587	25,431
63 CARNEGIE-MELLON UNIV	37,316	36,810	29,308	24,779	27,178	26,583	19,645	15,982
64 PRINCETON UNIVERSITY 2/	36,641	33,069	27,821	26,121	26,542	25,464	20,895	19,230
65 MISSISSIPPI STATE UNIV	36,582	33,684	29,035	26,054	9,560	9,833	8,824	7,445
66 SUNY AT STONY BROOK	36,468	32,216	26,183	23,500	24,904	23,256	18,460	16,734
67 UNIV ALABAMA BIRMINGHAM	35,792	33,904	30,959	27,089	30,234	29,118	25,171	22,407
68 UNIV OF CAL RIVERSIDE	35,539	34,416	24,961	21,568	11,217	11,133	8,862	7,456
69 KANS ST U - AG & APP SCI	34,806	32,049	27,793	24,539	10,928	9,884	8,677	7,469
70 NEW MEXICO STATE UNIV	34,650	32,999	25,618	19,601	26,066	25,122	21,718	16,457
TOTAL, 1ST 70 INSTS.	5,206,790	4,889,719	4,370,475	3,875,289	3,458,625	3,316,240	3,001,996	2,638,923
71 WASHINGTON STATE UNIV	34,257	31,831	31,538	26,160	12,961	11,298	11,855	10,916
72 UNIV OF MD COLLEGE PARK	34,251	45,230	39,917	33,578	27,521	26,394	23,174	21,309
73 UTAH STATE UNIVERSITY	33,822	28,149	24,611	17,726	19,123	16,328	14,819	11,077
74 WOODS HOLE OCNGRPHIC INST	33,725	33,902	29,209	28,004	29,002	28,740	25,042	24,714
75 UNIVERSITY OF VIRGINIA	33,661	30,924	27,297	23,086	26,892	26,119	23,606	20,101
76 U TEX HLTH SCI CTR DALLAS	32,058	29,868	26,586	22,613	25,121	23,890	20,871	17,872
77 UNIV OF CAL IRVINE	31,456	29,917	23,303	17,759	26,234	24,570	20,211	14,765
78 UNIVERSITY OF NEW MEXICO	30,977	25,271	24,242	25,525	21,968	18,862	19,024	17,246
79 BOSTON UNIVERSITY	30,603	28,917	24,393	21,190	27,374	26,036	22,238	19,050
80 CUNY MT SINAI SCH OF MED	29,797	28,794	26,718	23,130	21,496	23,358	21,182	17,886
TOTAL, 1ST 80 INSTS.	5,531,397	5,202,522	4,648,289	4,114,060	3,696,317	3,541,835	3,204,018	2,813,459
81 UNIVERSITY OF OKLAHOMA	29,785	32,006	23,019	13,726	13,523	14,206	12,181	9,219
82 UNIV OF MASS AT AMHERST	28,887	24,477	16,624	19,807	16,053	14,418	9,871	12,084
83 UNIVERSITY OF CINCINNATI	28,573	31,262	28,991	24,969	20,060	17,900	16,041	13,474
84 SUNY AT BUFFALO	27,800	28,029	23,437	22,020	18,375	18,651	15,664	14,490
85 UNIV OF ARK FAYETTEVILLE	26,653	21,442	21,126	20,779	6,827	3,321	2,902	2,633
86 VANDERBILT UNIVERSITY	24,993	23,919	20,570	18,019	19,649	19,290	16,498	14,350
87 CLEMSON UNIVERSITY	23,552	19,559E	18,366	17,181	9,196	6,290	5,847	4,997
88 GEORGE WASHINGTON UNIV	23,334	17,248	18,961	19,133	19,140	14,610	16,780	16,448
89 AUBURN UNIVERSITY	23,256	22,711	20,248	20,671	7,473	7,476	6,969	6,248
90 UNIV OF RHODE ISLAND	23,000E	21,968	16,932E	15,678	18,400E	19,428	13,847	12,821
TOTAL, 1ST 90 INSTS.	5,791,230	5,445,143	4,856,563	4,306,043	3,845,013	3,677,425	3,320,618	2,920,223
91 FLORIDA STATE UNIVERSITY	22,877	22,703	21,497	16,567	10,385	9,682	8,501	7,210
92 VIRGINIA COMMONWLTH UNIV	22,385	20,286	18,119	14,966	18,852	16,894	14,675	12,112
93 WAYNE STATE UNIVERSITY	21,542	22,569	20,818	19,840	12,903	13,192	12,196	12,257
94 TEMPLE UNIVERSITY	21,503	18,283	18,613	17,340	15,541	14,102	13,686	12,973
95 EMORY UNIVERSITY	21,423	18,784	15,725	14,546	18,015	15,843	13,558	12,872
96 BROWN UNIVERSITY	21,331	19,255	17,950	14,533	18,345	17,062	15,375	12,312
97 WEST VIRGINIA UNIVERSITY	21,080	19,553	17,510	15,377	10,476	10,717	9,225	8,803
98 UNIVERSITY OF KANSAS	20,534	22,032	19,869	17,374I	13,422	19,196	16,676	9,568I
99 RENSSELAER POLYTECH INST	20,302	18,81[illegible]	14,824	10,963	11,766	11,062	9,192	7,709
100 SYRACUSE UNIVERSITY	19,442	17,938	16,517	13,099	9,823	9,507	8,626	7,339
TOTAL, 1ST 100 INSTS.	6,003,649	5,645,362	5,038,005	4,460,648	3,984,541	3,814,682	3,442,328	3,023,378

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. -- TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
101 U TEX HLTH SCI CTR S ANTO	19,341	17,251	13,972	11,535	13,319	11,887	10,158	8,152
102 TULANE UNIVERSITY	19,271	18,984	12,426	11,754	10,678	10,332	7,990	7,557
103 GEORGETOWN UNIVERSITY	18,888	19,681	17,502	15,265	12,004	11,185	9,558	8,906
104 UNIVERSITY OF DAYTON	18,612	20,357	19,678	17,282	16,226	19,027	17,988	15,068
105 UNIV OF MAINE ORONO	18,599	17,342	14,339	12,320	8,149	7,548	6,825	6,527
106 UNIV OF VT & ST AGRIC COL	18,575	18,428	15,685	13,887	12,889	13,404	11,640	10,087
107 U TEX HLTH SCI CTR HOUSTN	18,281	14,256	11,340	7,965	14,620	11,215	8,811	6,126
108 U TEX MED BRNCH GALVESTON	18,272	17,612	16,041	13,835	10,632	11,349	10,387	8,702
109 NORTH DAKOTA STATE UNIV	18,101	15,086	12,984	10,792	4,428	3,622E	2,893	2,607
110 UNIVERSITY OF DELAWARE	17,875	17,202	16,746	14,363	9,540	9,413	9,180	8,117
TOTAL, 1ST 110 INSTS.	6,189,464	5,821,561	5,188,718	4,589,646	4,097,026	3,923,664	3,536,758	3,105,227
111 UNIV OF ILL MED CTR CHGO	17,485I	16,453	14,644	11,929	12,814I	12,318	10,329	8,631
112 UNIVERSITY OF DENVER	17,333	17,514	14,743	16,322	12,505	12,416	10,786	12,342
113 UNIVERSITY OF IDAHO	17,272	20,127	13,721	12,832	12,127	8,849	6,402	5,711
114 THE OREG HLTH SCI UNIV	16,954	11,497	12,854	10,459E	9,219	7,933E	8,836	8,519E
115 COL OF MED & DENT OF N J	16,123	14,589	12,394	9,897	11,115	10,207	9,095	6,337
116 MONTANA STATE UNIVERSITY	15,333	15,465	13,737	12,478	6,916	7,745	6,504	5,120
117 UNIVERSITY OF WYOMING	14,622	13,469	11,049	9,768	7,319	6,849	6,233	5,798
118 UNIV OF P R-MAYAGUEZ	14,611I	13,749I	12,162	11,306	5,624I	5,406I	4,889	4,634
119 INST OF AGRI UNIV OF TENN	14,545	14,437	15,711I	13,750I	5,155	6,295	6,878I	5,942I
120 DARTMOUTH COLLEGE	14,525	15,778	9,578	8,701	12,010	12,028	8,451	7,707
TOTAL, 1ST 120 INSTS.	6,348,267	5,974,539	5,319,311	4,707,088	4,191,830	4,013,710	3,615,161	3,176,168
121 SUNY UPSTATE MEDICAL CTR	14,476	6,345E	6,345E	5,875	5,232	4,029E	4,029E	3,731
122 U OF HOUSTON CENTRAL CAM	13,932	14,430	12,628	11,924	6,659	7,284	6,154	5,320
123 LEHIGH UNIVERSITY	13,679	10,608	9,413	8,468	6,447	5,830	5,131	4,377
124 BRANDEIS UNIVERSITY	13,654	11,617	9,566	9,230	10,487	10,441	8,854	8,683
125 UNIV OF MD BALT PROF SCH	13,553I	12,753	15,088	12,000	12,224I	11,750	13,322	10,852
126 TEXAS TECH UNIVERSITY	13,261	13,784	13,032	12,075	5,345	6,275	6,363	5,617
127 UNIV OF SOUTH CAROLINA	13,249	7,460I	6,599E	6,346	7,561	5,356I	4,844E	4,658
128 TUFTS UNIVERSITY	13,177I	12,254E	11,783	8,921E	10,937I	10,461E	10,059	6,346E
129 UNIV OF NEW HAMPSHIRE	13,162	11,673	10,112	9,189	7,558	7,208	6,189	5,378
130 UNIV OF CAL SANTA BARBARA	13,102	12,220	13,967	12,036	10,633	10,596	11,078	9,579
TOTAL, 1ST 130 INSTS.	6,483,512	6,087,783	5,427,844	4,803,152	4,274,913	4,092,940	3,691,184	3,240,709
131 U TENNESSEE KNOXVILLE	12,822	16,489	12,742E	12,742	10,309	12,549	9,169E	9,169
132 MEDICAL COLLEGE OF WIS	12,741I	11,849I	10,655	8,482	7,741I	7,404I	6,664	5,239
133 UNIV OF ILL CHICAGO CIR	12,662	9,228	8,918	7,759	7,670	6,011	5,722	5,053
134 SUNY DOWNSTATE MED CTR	12,510	13,533	10,799	10,357	8,467	9,219	7,358	7,752
135 UNIVERSITY OF NOTRE DAME	12,472	12,628	8,845	6,935	11,083	11,441	7,816	5,944
136 ST JOHN'S UNIVERSITY (NY)	11,750	10,587	8,519	8,081	170	175	636	554
137 ARIZONA STATE UNIVERSITY	11,511	9,707	6,938	8,086	7,840	8,267	5,939	4,491
138 UNIV OF NEVADA - RENO	11,441	5,389	7,811	6,158	5,187	3,747	3,486	2,456
139 TENNESSEE STATE UNIV	11,372	10,329	670E	-	6,830	6,198	0	-
140 HOWARD UNIVERSITY	11,244	9,515	11,658	6,442	9,178	7,332	8,172	4,942
TOTAL, 1ST 140 INSTS.	6,604,037	6,197,037	5,515,399	4,878,194	4,349,388	4,165,283	3,746,146	3,286,309
141 ALBANY MEDICAL COLLEGE	11,197	12,166	11,420	10,221	7,251	5,678	5,351	5,434
142 UNIV OF CAL SANTA CRUZ	11,094	10,081	7,844	6,599	7,240	6,957	5,823	4,756
143 RUSH UNIVERSITY	10,864	10,315	8,815	7,914	7,108	6,268	6,195	5,528
144 UNIVERSITY OF OREGON MAIN	10,504	9,812	9,104	7,951	8,263	8,300	7,893	6,573
145 UNIVERSITY OF MISSISSIPPI	9,912E	10,069	7,976	6,953E	5,514E	5,963	4,221	3,690E
146 U MASS MED SCHL WORCESTER	9,886	7,616	3,676	4,866	6,731	5,200	2,404	3,492
147 RICE UNIVERSITY	9,861E	9,391	8,029	7,374I	7,560E	7,200	6,184	5,825I
148 MED UNIV OF SO CAROLINA	9,655	8,930	8,615	6,205	7,420	6,950	6,774	5,395
149 SOUTHERN ILL U-CARBONDALE	9,387	8,786	6,589	5,196	3,943	4,178	3,044	1,970
150 THOMAS JEFFERSON UNIV	9,345	10,265	9,532E	9,254	6,982	7,680	7,739E	7,514
TOTAL, 1ST 150 INSTS.	6,705,742	6,294,464	5,596,999	4,950,727	4,417,400	4,229,657	3,801,774	3,336,486

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. -- TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
151 SUNY AT ALBANY	8,800	9,137	6,711E	6,058	6,700	7,084	5,206	4,38[illegible]
152 MICHIGAN TECH UNIVERSITY	8,772	8,511	8,483	7,148	3,431	3,465	3,193	2,834
153 UNIV TENN CTR HEALTH SCI	8,749	9,369	9,529	8,157	6,995	7,831	8,182	6,440
154 SOUTH DAKOTA STATE UNIV	8,722	7,941	8,129	7,155	2,243	2,739	3,370	2,814
155 UNIVERSITY OF N DAKOTA	8,332	5,629I	4,979E	4,632I	5,476	4,418I	3,996E	3,700I
156 US NAVAL POSTGRAD SCHOOL	7,956	6,650	6,314	5,846	7,853	6,596	6,246	5,802
157 N MEX INST MINING & TECH	7,749	8,108	7,312	5,413	4,814	5,226	5,011	3,603
158 UNIV OF WIS-MILWAUKEE	7,586	7,538	7,029	7,406	3,192	3,458	3,705	3,739
159 UNIV OF MISSOURI ROLLA	7,471	7,613	6,421	5,419	3,241	3,801	3,064	2,486
160 U OF CAL SYS WIDE PRGMS	7,388	7,583	5,568	4,214	566	568	656	477
TOTAL, 1ST 160 INSTS.	6,787,267	6,372,543	5,667,474	5,012,175	4,461,911	4,274,843	3,844,403	3,372,965
161 UNIVERSITY OF LOUISVILLE	7,294	6,520	6,489	6,397	3,949	4,029	4,184	3,394
162 MEDICAL COL OF GEORGIA	7,140	6,419	5,476	5,065	6,304	5,956	5,123	4,752
163 NORTHEASTERN UNIVERSITY	6,889	6,124	5,669I	5,036	5,356	4,398	4,742I	4,179
164 WAKE FOREST UNIVERSITY	6,742I	6,270E	5,972E	5,645E	5,366I	5,132E	4,888E	4,620E
165 HAHNEMANN MED COL & HOSP	6,659	5,361	4,451	3,936	5,641	4,593	3,520	2,946
166 UNIV OF SOUTH FLORIDA	6,600	6,302	4,771	4,267	3,965	3,552	2,759	2,467
167 WRIGHT STATE UNIVERSITY	6,521	6,576	4,923	4,798	4,025	3,867	3,365	3,238
168 U OF NEB MED CTR AT OMAHA	6,483	6,959	7,419	7,154	3,810	4,753	5,213	4,935
169 ST LOUIS UNIVERSITY	6,479I	6,025E	6,695E	6,695	4,835I	4,625E	5,139E	5,139
170 SUNY COL OF ENV SCI & FOR	6,290I	5,919	5,699	5,998	1,805I	1,735	1,686	1,666
TOTAL, 1ST 170 INSTS.	6,854,364	6,435,018	5,725,038	5,067,166	4,506,967	4,317,483	3,885,022	3,410,301
171 UNIV OF TEXAS AT DALLAS	6,221	5,823	6,288	6,095	4,338	4,017	4,223	4,639
172 BOSTON COLLEGE	6,151	5,834	5,430	4,225	5,989	5,182	4,818	3,587
173 SAN DIEGO STATE UNIV	[illegible]241	4,619	4,417	4,527	4,494	3,893	3,556	3,451
174 NEW YORK MEDICAL COLLEGE	[illegible]026	6,212	5,233E	5,233	4,995	5,218	4,363E	4,363
175 COLORADO SCHOOL OF MINES	5,897	5,676	4,510	2,897I	4,907	4,424	3,741	2,018I
176 THE MEDICAL COL OF PENNA	5,867	3,966	2,651	2,716	3,470	3,317	2,381	2,400
177 INSTITUTE PAPER CHEMISTRY	5,856	5,646	3,664E	3,476	1,219	1,228	48E	46
178 NORTH TEXAS STATE UNIV	5,811	4,226	3,456E	3,307	3,669	2,589	1,970E	1,859
179 DESERT RESEARCH INSTITUTE	5,798	6,165	5,443	5,799	2,821	2,856	2,604	2,581
180 MED COL OF OHIO AT TOLEDO	5,698I	5,362E	5,362	4,405	4,083I	3,925E	3,925	3,460
TOTAL, 1ST 180 INSTS.	6,913,730	6,488,547	5,771,492	5,109,846	4,546,952	4,354,132	3,916,651	3,438,705
181 U OF ARKANSAS MED SCI CAM	5,696	4,511	5,511	4,573	3,932	3,801	4,275	3,704
182 SUNY AT BINGHAMTON	5,636	5,232	4,504	3,173	4,001	3,933	3,264	2,244
183 SAN JOSE STATE UNIVERSITY	5,586	2,380	1,762I	1,532E	3,964	1,678	1,28[illegible]I	1,146E
184 UNIV OF WEST FLORIDA	5,552	6,650	4,333	2,668	1,651	3,378	1,967	1,303
185 UNIV OF CENTRAL FLORIDA	5,441	5,468	5,582	3,352	1,768	2,666	2,853	2,485
186 OHIO UNIVERSITY	5,400	4,164	3,187	2,608	2,140	2,134	1,600	1,476
187 ILLINOIS INST OF TECH	5,202	4,476	3,010I	2,674	4,347	3,906	1,962I	1,729
188 DREXEL UNIVERSITY	5,192	5,726	5,367	4,086	3,636	4,032	3,960	2,973
189 POLYTECHNIC INST OF N Y	5,184	5,319	6,814E	6,380	3,979	4,739	4,584E	4,292
190 WESLEYAN UNIVERSITY	5,179I	4,816	1,956E	1,956	3,760I	3,596	1,296E	1,296
TOTAL, 1ST 190 INSTS.	6,967,798	6,537,689	5,813,518	5,142,848	4,580,130	4,387,995	3,943,701	3,461,353
191 STEVENS INSTITUTE OF TECH	4,691	4,014	4,130	3,580	2,911	2,274	2,460	2,006
192 CUNY CITY COLLEGE	4,665	4,814	3,565	2,635	4,414	4,466	3,299	2,341
193 UNIF SERV UNIV OF HLTH SC	4,645	3,688	2,853	1,004	4,645	3,688	2,853	1,004
194 LOYOLA UNIV - CHICAGO	4,495	4,098	3,532I	3,138E	2,652	2,966	2,834I	2,498E
195 BRIGHAM YOUNG UNIVERSITY	4,375	4,451I	4,002E	3,706	1,892	1,690I	1,521E	1,408
196 PRAIRIE VIEW A & M UNIV	4,079	1,561I	1,381E	1,381I	3,780	1,492I	1,349E	1,349I
197 FLORIDA A & M UNIVERSITY	4,074	2,520	2,739I	2,382	1,245	2,226	2,548I	2,265
198 NORTHERN ILLINOIS UNIV	4,039	5,375	3,898	3,352	1,241	1,443	1,233	1,216
199 UNIV OF P R-MED SCI CMPUS	4,015I	3,778I	3,342I	2,925I	3,844I	3,695I	3,342I	2,908I
200 WORCESTER POLY INSTITUTE	4,006	3,587	3,696	3,359	1,612	2,070	2,035	1,138
TOTAL, 1ST 200 INSTS.	7,010,842	6,575,575	5,846,656	5,170,310	4,608,366	4,413,905	3,967,175	3,479,486

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
201 UNIV OF SOUTH ALABAMA	3,802	3,498	2,417E	2,273	2,954	2,602	1,793	1,721
202 UNIVERSITY OF MONTANA	3,588	2,956	2,898	4,086	1,591	1,525	1,539	1,854
203 TEXAS COL OF OSTEO MED	3,410	737	720	649	1,850	217	300	73
204 UNIV OF MISSOURI SYS OFF	3,400	3,649	3,541	3,100	500	483	469	373
205 CATHOLIC UNIV OF AMERICA	3,360	3,247	3,017	2,487	2,448	2,744	2,677	2,029
206 SOUTHERN METHODIST UNIV	3,266	2,194E	2,743	2,399	2,223	1,571E	1,964	1,760
207 CLARKSON COLLEGE OF TECH	3,228	3,641	3,624	3,170	2,428	2,868	2,639	2,282
208 UNIV OF ARK PINE BLUFF	3,199	3,783	3,564	2,635	1,502	2,290	2,106	1,256
209 U OF MD CENTER FOR EES	3,182	3,009	3,027	2,100	1,003	860	472	260
210 OREGON GRADUATE CENTER	3,048I	2,835	3,210	2,939	1,916I	1,833	1,870	1,381
TOTAL, 1ST 210 INSTS.	7,044,325	6,605,124	5,875,417	5,196,148	4,626,781	4,430,898	3,983,004	3,492,475
211 UNIV ALABAMA HUNTSVILLE	2,963	3,133	2,995	2,236	2,036	2,601	2,385	1,534
212 OLD DOMINION UNIVERSITY	2,955I	2,781I	2,460E	2,281	0I	0I	0	2,160
213 CUNY HUNTER COLLEGE	2,930	2,889	405E	405I	2,150	2,133	379E	379I
214 U HLTH SCI/CHCGO MED SCH	2,847	2,711	1,094I	972	1,231	1,217	767I	676
215 UNIVERSITY OF NEW ORLEANS	2,842	2,780	3,447	2,550	1,122	1,232	1,660	1,080
216 AMERICAN UNIVERSITY	2,812	2,957	2,456	2,417	1,799	2,509	2,374	2,401
217 NC AG & TECH STATE UNIV	2,787	3,656	4,969	4,765	2,641	3,628	4,888E	4,687
218 UNIV OF P R-RIO PIEDRAS	2,755I	2,592I	2,293I	2,007I	1,204I	1,157I	1,046I	904I
219 UNIVERSITY OF LOWELL	2,726I	2,565	2,280	2,216	1,802I	1,732	1,561	1,508
220 MCNEESE STATE UNIVERSITY	2,710	1,817	1	20	2,694	1,808	0	18
TOTAL, 1ST 220 INSTS.	7,072,652	6,633,005	5,897,817	5,216,017	4,643,460	4,448,915	3,998,064	3,507,822
221 OAKLAND UNIVERSITY	2,644	2,233	2,358	1,620	1,746	1,732	1,564	1,230
222 LOMA LINDA UNIVERSITY	2,484E	2,385	4,091E	3,799	1,866E	1,814E	3,111E	2,886
223 NEW YORK INST TECHNOLOGY	2,474I	2,301E	2,301	2,280	109I	104E	104	60
224 CLARK UNIVERSITY	2,439	1,754	1,348	1,446	1,911	1,218	1,048	1,041
225 SOUTHERN U & A&M COLLEGE	2,387	1,929	1,875	964	2,361	1,929	1,875	964
226 UNIV OF MASS BOSTON	2,330I	2,151	922E	854	1,285I	1,291	654E	606
227 KENT STATE UNIVERSITY	2,322	3,009	1,050E	912	1,452	1,660	864E	745
228 UNIVERSITY OF AKRON	2,251	1,491	1,251	1,000	1,038	614	696	650
229 MEHARRY MEDICAL COLLEGE	2,247	1,937E	1,682E	1,250E	1,922	1,592E	1,215E	846E
230 CLEVELAND STATE UNIV	2,101	2,039	1,407	972	953	719	351	217
TOTAL, 1ST 230 INSTS.	7,096,331	6,654,234	5,916,102	5,231,114	4,658,103	4,461,588	4,009,546	3,517,067
231 THE UNIVERSITY OF ALABAMA	2,086E	1,987E	1,911E	1,762	908E	865E	832E	767
232 CATHOLIC UNIV OF P R	2,066	1,762	423I	376	335	264	296I	261
233 U OF MD BALTIMORE COUNTY	2,057	2,255	1,606	1,187	1,642	1,907	1,328	896
234 TEXAS A & I UNIVERSITY	2,050	1,523	1,186	1,092	276	235	240	287
235 CREIGHTON UNIVERSITY	2,044	1,663	2,348I	2,086E	971	984	1,566I	1,380E
236 VIRGINIA STATE UNIVERSITY	2,033I	1,877	1,913	2,128	1,868I	1,877	1,904	2,128
237 GALLAUDET COLLEGE	2,013	1,852	2,589E	2,589I	1,893	1,574E	0	615I
238 N J INST OF TECHNOLOGY	1,988	2,027	2,589	1,784	753	934	1,086	1,000
239 EAST CAROLINA UNIVERSITY	1,970	1,570	1,086	992	822	768	514	334
240 CALIF ST COL STANISLAUS	1,948	1,734	1,773	103	0	0	89	21
TOTAL, 1ST 240 INSTS.	7,116,586	6,672,484	5,933,526	5,245,213	4,667,571	4,470,996	4,017,401	3,524,756
241 CUNY QUEENS COLLEGE	1,934	1,681	1,471	1,533	1,220	1,174	874	966
242 S DAK SCH MINES & TECH	1,927I	1,813I	1,604E	1,604	991I	953I	862E	862
243 PORTLAND STATE UNIVERSITY	1,922	1,725E	1,570E	1,427	1,214	1,300E	1,180E	1,073
244 GEORGIA STATE UNIVERSITY	1,910	1,505	1,046	1,140	649	548	475	469
245 WELLESLEY COLLEGE	1,905	2,294	1,472	441	957	1,239	622	266
246 COLLEGE OF WILLIAM & MARY	1,893	2,025	975E	975	1,390	1,314	923E	923
247 UNIVERSITY OF GUAM	1,862	2,060	2,114	1,038I	949	855	1,100	591I
248 ALABAMA A & M UNIVERSITY	1,861	1,601	1,313	1,332I	1,861	1,601	1,308	935I
249 CUNY BROOKLYN COLLEGE	1,748I	1,614I	1,428I	1,242	1,055I	1,060I	959I	852
250 EASTERN WASHINGTON UNIV	1,737	1,136	375	357	800	957	241	195
TOTAL, 1ST 250 INSTS.	7,135,285	6,689,938	5,946,894	5,256,302	4,678,657	4,481,597	4,025,945	3,531,888

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. -- TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
251 FAIRLEIGH DICKINSON UNIV	1,696	1,441	1,356	1,344	755	943	878	923
252 SUNY COLLEGE BUFFALO	1,637I	1,511I	1,337I	1,163I	1,439I	1,446I	1,308I	1,163I
253 US NAVAL ACADEMY	1,619	1,433	1,217I	1,087	1,598	1,433	1,217I	1,087
254 UNIV OF TEX AT ARLINGTON	1,619	1,562	1,354	957	533	547	540	423
255 UNIV OF STHRN MISSISSIPPI	1,573	1,193	1,440	808	1,029	830	1,022	446
256 UNIV OF SOUTHWESTERN LA	1,559	1,195	1,702	1,614	738	643	710	618
257 BOWLING GREEN STATE UNIV	1,557	1,453E	1,453E	1,352	994	910E	910E	845
258 LOUISIANA TECH UNIVERSITY	1,551	1,429E	1,245	1,153	438	669E	685	555
259 UNIVERSITY OF SANTA CLARA	1,533	1,232I	1,108I	984I	1,377	1,209I	1,088I	959I
260 UNIVERSITY OF TULSA	1,513	1,881	1,540	843	743	598	703	278
TOTAL, 1ST 260 INSTS.	7,151,142	6,704,268	5,960,646	5,267,607	4,688,301	4,490,825	4,035,006	3,539,185
261 UNIV OF MISSOURI KAN CITY	1,475	1,358	1,076	1,079	367	386	332	384
262 SUNY COLLEGE NEW PALTZ	1,471I	1,358I	1,201I	1,044I	656I	659I	596I	530I
263 ATLANTA UNIVERSITY	1,450	1,820	1,797	2,245	1,174E	1,474	1,548	1,750
264 MEMPHIS STATE UNIVERSITY	1,441	1,634	1,159	1,376	402	556	279	269
265 TENN TECHNOLOGICAL UNIV	1,381	1,536	844	834	588	599	356	323
266 U OF MD EASTERN SHORE	1,376I	1,376	1,024I	914	982I	982	1,024I	914
267 UNIV OF TEXAS AT EL PASO	1,372	1,372	1,436	1,917	765	766	898	1,110
268 MONT COL MINRL SCI & TECH	1,351	2,084	1,674	1,429	1,132	1,957	1,614	1,294
269 MERCER UNIVERSITY	1,349	4	2E	2	116	0	0	0
270 ILLINOIS STATE UNIVERSITY	1,343	1,648	1,005	575	579	832	425	299
TOTAL, 1ST 270 INSTS.	7,165,151	6,718,458	5,971,864	5,279,022	4,695,062	4,499,036	4,042,078	3,546,058
271 FLORIDA INST OF TECH	1,332	1,369	1,269	667	702	887	701	346
272 NORTHERN ARIZONA UNIV	1,317	1,167	1,130	899	442	410	378	338
273 FORDHAM UNIVERSITY	1,302	815	697	1,012	1,112	685	574	745
274 HARVEY MUDD COLLEGE	1,286	1,224	748	107I	573	546	418	86I
275 WENTWORTH INST OF TECH	1,271	1,761	2,108	1,373	1,268	1,728	2,088	1,335
276 ROCHESTER INST TECHNOLOGY	1,266I	1,266	1,701	1,516	665I	665	521	253
277 SOUTH CAROLINA ST COLLEGE	1,263	521I	508E	486	1,255	518I	508E	486
278 CALIF ST UNIV FULLERTON	1,243	1,210	192	649	466	578	192	458
279 JACKSON STATE UNIVERSITY	1,220I	1,126I	996	511	900I	904I	818	494
280 CUNY GRAD SCH & UNIV CTR	1,201	1,304	1,379	1,554	1,008	1,132	1,212	1,291
TOTAL, 1ST 280 INSTS.	7,177,852	6,730,221	5,982,592	5,287,796	4,703,453	4,507,089	4,049,488	3,551,890
281 UNIV OF NEVADA LAS VEGAS	1,201	363	679	659	967	177	564E	547
282 MIAMI UNIVERSITY (OHIO)	1,186	1,062E	1,062E	983	738	676E	676E	626
283 SAN FRANCISCO STATE UNIV	1,183	1,434	1,100	953	1,007	1,315	972	902
284 THE WRIGHT INSTITUTE	1,171	1,663	1,461	968	796	1,566	1,392	922
285 ALFRED UNIVERSITY	1,141I	1,061I	954E	883	84I	80I	72E	67
286 UNIV OF WIS-SUPERIOR	1,139	793	550	483	1,056	685	420	368
287 MARQUETTE UNIVERSITY	1,121	1,492	1,103	656	894	1,090	798	453
288 CALIF ST UNIV LOS ANGELES	1,120	1,200	1,268E	1,077	944	1,037	1,107	813
289 WICHITA STATE UNIVERSITY	1,071	1,255	1,736	1,246	309	385	341	292
290 UNIVERSITY OF D C	1,058	428	393	605	882	428	393	605
TOTAL, 1ST 290 INSTS.	7,189,243	6,74[illegible],972	5,992,898	5,296,309	4,711,130	4,514,528	4,056,223	3,557,485
291 UNIV OF MISSOURI ST LOUIS	1,033	923	717	669	292	483	396	348
292 UNIVERSITY OF TOLEDO	1,005	992	1,159	1,177	602	602	463	348
293 EAST TENNESSEE STATE UNIV	1,000E	943	739	470	630E	594	401	218
294 UNIV OF SOUTH DAKOTA	998	217	875	791	618	217	537	475
295 INSTITUTE OF TEXTILE TECH	984I	915I	823I	731I	0I	0I	0I	0I
296 TUSKEGEE INSTITUTE	973E	927	631	501	973E	927	615	470
297 POMONA COLLEGE	972I	972	969E	919	897[illegible]	897	886E	841
298 OCCIDENTAL COLLEGE	965	1,527	922	620	107	184	218	232
299 SMITH COLLEGE	959	909	493	222	275	470	188	151
300 KENTUCKY STATE UNIVERSITY	941I	941	398I	355	941I	941	398I	355
TOTAL, 1ST 300 INSTS.	7,199,073	6,750,238	6,000,624	5,302,764	4,716,465	4,519,843	4,060,325	3,560,923

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
301 CLAREMONT GRADUATE SCHOOL	932	129	141E	131	394	129	77E	71
302 TEXAS WOMAN'S UNIVERSITY	919	1,095	954	757	112	330	223	216
303 NE OHIO UNIVS MED SCHOOL	904	872	748	1,746	502	543	566	772
304 MANHATTAN COLLEGE	898	1,138	941	693	792	993	851	480
305 UNIVERSITY OF THE PACIFIC	866E	866I	779I	692I	659E	659I	593I	523I
306 ALCORN STATE UNIVERSITY	860I	860I	839I	749I	855I	855I	839I	749I
307 FLORIDA ATLANTIC UNIV	851	765	687	720	277	394	332	372
308 CALIF ST UNIV LONG BEACH	849	1,041	914	620	625	706	595	426
309 SOUTHWEST MISSOURI ST U	841	716	502	352	70	89	14	19
310 NOVA UNIVERSITY	827	739	1,044I	927	624	586	669I	590
TOTAL, 1ST 310 INSTS.	7,207,820	6,758,459	6,008,173	5,310,151	4,721,375	4,525,127	4,065,084	3,565,141
311 CHICAGO COL OF OSTEO MED	797	743	468I	416	95	55	51I	45
312 WESTERN ILLINOIS UNIV	775	759	682	582	141	122	178	163
313 TEXAS CHRISTIAN UNIV	751	3,773	2,086	2,638	346	3,162	1,479	2,113
314 STEPHEN F AUSTIN ST UNIV	749	660	690	710	269	251	352	364
315 SETON HALL UNIVERSITY	749I	697I	627I	557I	676I	647I	552I	513I
316 CHICAGO STATE UNIVERSITY	739I	682	184I	160	679I	682	179I	159
317 XAVIER UNIVERSITY	738I	738	509	543	303I	303	177	165
318 EMMANUEL COLLEGE	731I	731E	731	913I	728I	728E	728	913I
319 EASTERN VA MEDICAL SCHOOL	727	806	0	0	579	660	0	0
320 CAL POLY ST U SAN LUIS OB	725	594	575E	564I	271	325	575E	564I
TOTAL, 1ST 320 INSTS.	7,215,301	6,768,642	6,014,725	5,317,234	4,725,462	4,532,062	4,069,385	3,570,140
321 WESTERN WASHINGTON UNIV	721	965	915	989	284	574	743	909
322 AMHERST COLLEGE	721	745	853	813	681	670	789	759
323 COL OF THE VIRGIN ISLANDS	711I	711I	693I	619	608I	608I	596I	532
324 TRINITY UNIVERSITY	704	1,002	687	509	603	642	526	323
325 BRYN MAWR COLLEGE	689	360I	324E	306	533	360I	324E	306
326 CUNY BERNARD BARUCH COL	689I	636I	563I	490	155I	156I	141I	125
327 WILLIAMS COLLEGE	682I	682	373E	345	606I	606	345E	320
328 WESTERN KENTUCKY UNIV	680	418	309	341	215	86	193	244
329 DENISON UNIVERSITY	662I	662I	605E	518	263I	263I	276E	236
330 U TENNESSEE CHATTANOOGA	658E	645E	330E	145E	107E	105E	65E	45E
TOTAL, 1ST 330 INSTS.	7,222,218	6,775,548	6,020,377	5,322,309	4,729,517	4,536,132	4,073,383	3,573,939
331 TEXAS SOUTHERN UNIV	643	356	362I	315I	529	321	303I	269I
332 BOWDOIN COLLEGE	622	532	563	273	182	196	195	42
333 WESTERN MICHIGAN UNIV	621I	584I	517E	470I	255I	245I	222E	202I
334 HUMBOLDT STATE UNIVERSITY	620	733	0	0	459	464	0	0
335 DUQUESNE UNIVERSITY	598I	556I	500E	461	0I	0I	0	333
336 UNIV OF SAN FRANCISCO	595	586	445	534	371	448	372	475
337 NORFOLK STATE UNIVERSITY	595I	595I	580	230	591I	591I	580	228
338 IDAHO STATE UNIVERSITY	593	1,480	713	1,153	498	1,022	540	843
339 UNION COLLEGE (NY)	580	482	526	440	106	155	223	128
340 UNIVERSITY OF DETROIT	560I	521	451	463	64I	61	138	145
TOTAL, 1ST 340 INSTS.	7,228,245	6,781,973	4,025,034	5,326,648	4,732,572	4,539,635	4,075,956	3,576,604
341 CUNY YORK COLLEGE	532E	471	359E	332I	480	427	319E	296I
342 MILWAUKEE SCHOOL OF ENG	527I	527I	474	298	0I	0I	0	0
343 UNIV OF WIS-GREEN BAY	526	408	383	374	420	276	260	259
344 BALL STATE UNIVERSITY	526	583	255	122I	91	202	67	86I
345 SOUTHWEST TEXAS ST UNIV	515	485	414	391	155	190	220	250
346 BAYLOR UNIVERSITY	510	524I	471	513	32	64I	58	36
347 BUCKNELL UNIVERSITY	503	493	486	410	253	316	341	285
348 SAM HOUSTON STATE UNIV	490	720	644	472	277	482	396	222
349 MARSHALL UNIVERSITY	479	325	96	65	452	300	82	45
350 INDIANA STATE UNIVERSITY	474	556	254	162	192	297	233	134
TOTAL, 1ST 350 INSTS.	7,233,327	6,787,065	6,028,870	5,329,787	4,734,924	4,542,189	4,077,932	3,578,217

SEE FOOTNOTES AT END OF TABLE

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
351 CALIF STATE UNIV FRESNO	473I	437	362E	335	451	45	36E	33
352 REED COLLEGE	469	763	608	496	404	705	570	440
353 VILLANOVA UNIVERSITY	467E	441	482	298	422E	398	420	241
354 UNIV OF N C AT CHARLOTTE	456I	421I	372E	344	107I	10HI	98E	91
355 WEST TEXAS STATE UNIV	443	455	525	515	93	88	62	108
356 US AIR FORCE ACADEMY	442E	433	851	736	442E	433	851	736
357 SWARTHMORE COLLEGE	437I	437I	393E	393	344I	344I	310E	310
358 UNIV OF N C AT GREENSBORO	427I	402I	356	301	232I	223I	202	211
359 VASSAR COLLEGE	418I	418	326	216	365I	365	276	174
360 MOUNT HOLYOKE COLLEGE	415	513	353	263	248	338	204	185
TOTAL, 1ST 360 INSTS.	7,237,774	6,791,785	6,033,498	5,333,684	4,737,626	4,545,236	4,080,961	3,580,746
361 UNIV OF WIS-PARKSIDE	406	384	222	113	292	309	155	93
362 S ILLINOIS U EDWARDSVILLE	405	664	829	655	184	299	302	258
363 PAN AMERICAN UNIVERSITY	401	507	502	564	379	487	477	550
364 UNIV OF WIS-STEVENS POINT	398	377	307	241	264	216	170	144
365 ARKANSAS STATE UNIVERSITY	392	158	0	152	121	14	0	24
366 REGIS COLLEGE	386	399	369	335	386	399	369	335
367 US MILITARY ACADEMY	377I	377I	368I	329I	49I	49I	48I	43I
368 UNIV OF WIS-LA CROSSE	375	640	589	488	144	323	277	182
369 NEW MEXICO HIGHLANDS UNIV	368I	340I	301	286	303I	304I	275	137
370 CUNY COL STATEN ISLAND	360I	332	230E	214	135I	136	87E	81
TOTAL, 1ST 370 INSTS.	7,241,642	6,795,963	6,037,215	5,337,061	4,739,883	4,547,772	4,083,121	3,582,593
371 SOUTHEASTERN MASS UNIV	359I	331I	293I	255I	278I	279I	252I	224I
372 COLUMBIA U TEACHERS COL	340	280	323	322	106	221	217	226
373 GEORGE MASON UNIVERSITY	334I	314I	278E	264I	171I	164I	148E	140I
374 BAYLOR COL OF DENTISTRY	331	283	147	94	112	116	100	64
375 MIDDLEBURY COLLEGE	328I	328I	295	144	0I	0I	0	117
376 SUNY COLLEGE POTSDAM	325I	300	32E	27	73I	73	9E	8
377 UNIV OF NEBRASKA AT OMAHA	319	288	456	548	12	75	323	179
378 ADELPHI UNIVERSITY	315	317	399	418	190	160	290	251
379 COOPER UNION	311I	311I	280	26I	102I	102I	92	3I
380 JOHN CARROLL UNIVERSITY	310	222	134	111	310	222	134	111
TOTAL, 1ST 380 INSTS.	7,244,914	6,798,937	6,039,852	5,339,270	4,741,237	4,549,184	4,084,686	3,583,916
381 HAVERFORD COLLEGE	306	479I	438	381	272	369I	388	369
382 WEBB INST OF NAVAL ARCH	301I	301I	275	229	185I	185I	194	166
383 BARNARD COLLEGE	290I	290I	265E	258	181I	181I	190E	186
384 SUNY COLLEGE FREDONIA	285	472	332	167	77	171	155	114
385 KIRKSVILLE COL OSTEO MED	281I	261I	235I	209I	116I	111I	100I	88I
386 LAMAR UNIVERSITY	278	203	568	434	59	65	208	369
387 SUNY ST COL OF OPTOMETRY	276	195	373E	508	209	163	62E	62
388 DE PAUL UNIVERSITY	260	309	391	357	202	240	304	307
389 NEW SCH FOR SOC RESEARCH	260	254I	228E	215I	260	247I	222E	211I
390 W VA SCHL OSTEOPATHIC MED	258	20	15E	15	0	0	0	0
TOTAL, 1ST 390 INSTS.	7,247,709	6,801,721	6,042,972	5,342,043	4,742,798	4,550,916	4,086,509	3,585,788
391 GEORGIA SOUTHERN COLLEGE	258	142	90	82	139	75	32	24
392 COL OF THE HOLY CROSS	253I	253	261	134	132I	132	139	42
393 JAMES MADISON UNIVERSITY	249	366	425	310	116	235	332	225
394 ABILENE CHRISTIAN UNIV	247	214	196	121	50	39	0	0
395 MURRAY STATE UNIVERSITY	247I	228	1,166I	1,014	41I	41	44I	39
396 CENTRAL WASHINGTON UNIV	246	171	1,013	1,553	219	115	74	521
397 CALIF ST UNIV HAYWARD	244	246	113E	105	188	172	110E	101
398 CENTRAL MICHIGAN UNIV	235	135	763I	668E	30	53	111I	96E
399 CALIF STATE UNIV CHICO	233	475	310	487	47	126	85	217
400 HOFSTRA UNIVERSITY	227	2[illegible]	164	75	141	149	123	68
TOTAL, 1ST 400 INSTS.	7,250,148	6,804,179	6,047,473	5,346,592	4,743,901	4,552,053	4,087,559	3,587,121

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
401 ST JOSEPH COLLEGE	225	168	60	45	0	0	8	0
402 FISK UNIVERSITY	220	219I	197I	176I	197	219I	197I	176I
403 UNIV OF WIS-STOUT	217	287	278	362	88	151	165	194
404 VIRGINIA MILITARY INST	211	250	180	98	143	193	141	77
405 LONG ISLAND UNIVERSITY	209	386	504	344	90	259	447	301
406 WEST GEORGIA COLLEGE	207	241	258	250	8	38	47	14
407 OBERLIN COLLEGE	207I	207I	186I	166E	134I	134I	121I	108E
408 UNIV OF ALBUQUERQUE	206I	206I	188E	169	179I	179I	188E	169
409 GRINNELL COLLEGE	198I	198E	168I	150	95I	95E	19I	17
410 PHILA COL OF PHARM & SCI	195	188	150E	144	117	116	85E	82
TOTAL, 1ST 410 INSTS.	7,252,242	6,806,529	6,049,642	5,348,496	4,744,952	4,553,437	4,088,977	3,588,259
411 ALBANY STATE COLLEGE	195	170	9	117I	195	170	9	117I
412 KUTZTOWN STATE COLLEGE	195I	180I	159I	138I	83I	83I	75I	67I
413 NORTH CAROLINA CNTRL UNIV	194I	179I	158E	141	110I	111I	100E	89
414 CONNECTICUT COLLEGE	186	180E	165E	160I	71	0	0	107I
415 ILLINOIS BENEDICTINE COL	186	155	96I	86E	48	92	0I	0
416 WILLIAM PATERSON COLLEGE	178I	164	153	144	100I	100	72	76
417 NORTHEAST LOUISIANA UNIV	174	231	199	230	28	93	53	46
418 CALIF ST POLY UNIV POMONA	172	564	422	69	126	379	261	42
419 UNIVERSITY OF REDLANDS	172	1,608I	1,446I	1,291	172	331	301	27
420 GRAMBLING STATE UNIV	168I	155I	137	207I	150I	151I	137	185I
TOTAL, 1ST 420 INSTS.	7,254,063	6,810,115	6,052,586	5,351,079	4,746,035	4,554,649	4,089,714	3,589,015
421 MILWAUKEE AREA TECH COL	168	0	0	0	83	0	0	0
422 UNIV OF WIS-OSHKOSH	167	170	118	13	129	117	100	1
423 ST JOSEPH'S UNIVERSITY	167	117I	105	37	95	111I	100	33
424 NORTHEAST MISSOURI ST U	164I	151	140I	122I	26I	26	97I	86I
425 MORGAN STATE UNIVERSITY	161I	149I	132I	115	142I	143I	129I	115
426 TRINITY COLLEGE	158	268	99E	98	104	220	22E	21
427 EAST TEXAS STATE UNIV	157	136I	120	142	0	0I	0	0
428 SUNY COLLEGE BROCKPORT	155	130	121E	109	99	88	35E	31
429 COLORADO COLLEGE	150I	150	159	124	41I	41	42	40
430 ITHACA COLLEGE	148I	148I	133E	119	102I	102I	92E	82
TOTAL, 1ST 430 INSTS.	7,255,658	6,811,534	6,053,713	5,351,958	4,746,856	4,555,497	4,090,331	3,589,424
431 UNIV HOUSTN CLR LAKE CITY	145	107	0	59	64	78	0	35
432 WASHINGTON & LEE UNIV	137	174	50	103	23	24	24	32
433 EASTERN NEW MEXICO UNIV	136	362	669E	620	55	124	238E	230
434 GOUCHER COLLEGE	132I	132E	107	27	57I	57	46	8
435 BRADLEY UNIVERSITY	131I	131	39	47	81I	81	36	0
436 COLLEGE OF WOOSTER	130I	130I	119E	115	88I	88I	93E	89
437 OKLA COL OSTEO MED & SURG	126I	119I	105E	103	16I	15I	14E	13
438 MANKATO STATE UNIVERSITY	116	4	37E	34	60	3	18E	17
439 WALLA WALLA COLLEGE	112I	112	96E	96	76I	76	0	78
440 KNOX COLLEGE	109	149	9E	7	98	140	0	3
TOTAL, 1ST 440 INSTS.	7,256,932	6,812,954	6,054,944	5,353,169	4,747,474	4,556,183	4,090,800	3,589,929
441 SOUTHERN OREGON ST COL	107	107	53	45	92	74	22	32
442 SUNY COLLEGE ONEONTA	104	64	77	78	68	15	31	34
443 ST OLAF COLLEGE	102	58	22	40	35	35	20	34
444 PACIFIC LUTHERAN UNIV	99I	99I	89	31	56I	56I	50	13
445 FURMAN UNIVERSITY	99	101I	91E	89	65	59I	53E	52
446 WESTERN ST COL COLORADO	99	53	11	0	0	0	0	0
447 YOUNGSTOWN ST UNIVERSITY	98	385	136I	118I	88	277	55I	49I
448 BELOIT COLLEGE	97	165	98	98	81	144	77	53
449 DRAKE UNIVERSITY	92	208	199	199	45	153	138	137
450 LINFIELD COLLEGE	92I	92I	84I	75I	25I	25I	26I	23I
TOTAL, 1ST 450 INSTS.	7,257,921	6,814,286	6,055,804	5,353,942	4,748,029	4,557,021	4,091,272	3,590,356

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. — TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
451 WINTHROP COLLEGE	92	210	167	183	92	101	97	67
452 US COAST GUARD ACADEMY	90I	90E	82I	82I	90I	90E	91I	81I
453 MASS COL PHAR/ALLIED HLTH	89I	83I	75E	72	0I	0I	0	0
454 TARLETON STATE UNIVERSITY	88	85	110	16	9	9	31	0
455 OKLA PANHANDLE STATE UNIV	88I	88I	86I	77I	0I	0I	0I	0I
456 SUNY COLLEGE CORTLAND	86	61	144	137	57	37	96	98
457 GOVERNORS STATE UNIV	80	353	254	82	63	232	214	65
458 AIR FORCE INST OF TECH	80	73I	65	50	80	72I	65	50
459 KEARNEY STATE COLLEGE	78I	72	63E	61E	18I	18E	17E	15E
460 ST MARY'S UNIV S ANTONIO	77I	77E	73	102	77I	77E	73	50
TOTAL, 1ST 460 INSTS.	7,258,769	6,815,478	6,056,933	5,354,804	4,748,515	4,557,657	4,091,956	3,590,783
461 SUNY COLLEGE OSWEGO	76I	70E	70	76	45I	45E	45	50
462 MONTCLAIR STATE COLLEGE	73I	67I	59	208	18I	18I	16	100
463 NORTHERN MICHIGAN UNIV	71	276	158	203	48	135	81	90
464 DE PAUW UNIVERSITY	69I	69E	69I	62I	0I	0	1I	1I
465 CARLETON COLLEGE	68	179	176	144	16	8[illegible]	127	72
466 UNIVERSITY OF DALLAS	66I	66I	60E	55	0I	0I	0E	0
467 SIMMONS COLLEGE	65I	65E	65E	60	54I	54E	54E	51
468 EASTERN MICHIGAN UNIV	60I	55E	50E	50I	29I	29	24E	24I
469 FRANKLIN & MARSHALL COL	58I	58	76E	73	49I	49	0	46
470 UNIV OF WIS-EAU CLAIRE	57	120	91	75	14	80	5E	44
TOTAL, 1ST 470 INSTS.	7,259,432	6,816,503	6,057,807	5,355,810	4,748,788	4,558,147	4,092,362	3,591,261
471 MISS UNIVERSITY FOR WOMEN	56	24	0	0	56	24	0	0
472 SEATTLE UNIVERSITY	56I	56I	50E	45E	0I	0I	0	40E
473 STETSON UNIVERSITY	52E	51E	0	0	31E	31E	0	0
474 CANISIUS COLLEGE	47	44I	40	52	0	26I	27	44
475 SUL ROSS STATE UNIVERSITY	47I	43	109	80	15I	15	31	34
476 PACIFIC UNIVERSITY	43I	43I	39E	39	0I	0I	0	2
477 AUSTIN COLLEGE	42I	42I	38E	36	8I	8I	8E	6
478 UNIV OF WIS-RIVER FALLS	40	59	53	42	15	17	33	24
479 AUGSBURG COLLEGE	40I	40	70E	66	26I	26	22E	20
480 ST CLOUD STATE UNIVERSITY	38	38	23	75	19	11	1	21
TOTAL, 1ST 480 INSTS.	7,259,893	6,816,943	6,058,229	5,356,245	4,748,958	4,558,305	4,092,484	3,591,452
481 ATHENS STATE COLLEGE	37	44	43	39	37	44	43	39
482 UNIVERSITY OF PORTLAND	35	33	39E	36E	14	24	0	0
483 MOREHEAD STATE UNIVERSITY	35I	32	137	204	4I	4	32	107
484 NORTHEASTERN ILL UNIV	34	34	7	32	5	0	0	7
485 UNIV OF WIS-WHITEWATER	34	28	31	56	0	0	0	0
486 AUGUSTANA COLLEGE	32	39	124	64	29	39	94	64
487 WESTERN OREGON STATE COLL	32I	30	33E	30	30I	30	33E	30
488 FULLER THEOLOGICAL SEM	30	27	0	0	27	27	0	0
489 EMPORIA STATE UNIVERSITY	30	86	70	46	7	48	43	42
490 TOWSON STATE UNIVERSITY	30	57	38	11	30	57	38	11
TOTAL, 1ST 490 INSTS.	7,260,222	6,817,359	6,058,751	5,356,763	4,749,141	4,558,578	4,092,767	3,591,752
491 ROLLINS COLLEGE	30	92	123	59I	0	14	113	0I
492 VALPARAISO UNIVERSITY	29E	57	37	10	0	0	25	0
493 ANDREWS UNIVERSITY	28	28	26E	26	4	1	7E	7
494 MOORHEAD STATE UNIVERSITY	28I	26	47	49	11I	11	19	33
495 BEMIDJI STATE UNIVERSITY	26I	24I	21E	19I	11I	11I	10E	9I
496 WIDENER UNIVERSITY	25	63	58E	58I	5	40	0	28I
497 NORTHWESTERN ST UNIV LA	23I	21E	21E	20	8I	8E	8E	7
498 FAIRFIELD UNIVERSITY	22	25	132I	118	13	22	54I	48
499 CHAPMAN COLLEGE	20	21	3	3	0	0	0	0
500 PROVIDENCE COLLEGE	18I	17I	15	18	0I	0I	0	0
TOTAL, 1ST 500 INSTS.	7,260,471	6,817,733	6,059,234	5,357,143	4,749,193	4,558,685	4,093,003	3,591,884

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. -- TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
501 GRAND VALLEY STATE COLS	17I	17	3	106	17I	17	2	2
502 SUNY COLLEGE GENESEO	17I	16I	14	52	2I	2I	2	20
503 LAKE FOREST COLLEGE	14	39	24	83	14	24	13	53
504 EAST STROUDSBURG ST COL	13I	12	0	0	0I	0	0	0
505 AUGUSTANA COLLEGE	12	3	2	15E	9	0	0	0
506 LORAS COLLEGE	11I	11I	10I	9	0I	0I	0I	0
507 NORTHWEST MISSOURI ST U	11E	10I	9E	9E	0	0I	0E	0
508 UNIV OF NORTHERN IOWA	10	78	119I	104	10	72	108I	93
509 CAL ST COL SAN BERNARDINO	9	10	46	90	9	10	17	68
510 HENDERSON STATE UNIV	8	22	82	108	0	1	45	60
TOTAL, 1ST 510 INSTS.	7,260,593	6,817,951	6,059,543	5,357,719	4,749,254	4,558,811	4,093,190	3,592,180
511 PITTSBURG STATE UNIV	8	7	6	10	0	0	0	0
512 UNIVERSITY OF MONTEVALLO	8E	6	17	10	0	0	0	0
513 ST BONAVENTURE UNIVERSITY	7E	5E	4E	4	0E	0E	0E	0
514 LOYOLA UNIV - NEW ORLEANS	6E	5	38	39	3E	2	12	7
515 ANTIOCH UNIVERSITY	4E	2I	2E	1I	4E	2I	2E	0I
516 OHIO DOMINICAN COLLEGE	4	42	2	0	0	0	0	0
517 PACIFIC UNION COLLEGE	3E	3	48	0	2E	2	35	0
518 UNIV OF WIS-PLATTEVILLE	3	4	5	1	0	0	0	0
519 ST MARY'S COLLEGE	1	4	0	33	1	4	0	32
520 NEW ENGLAND INSTITUTE	0	0	0E	0E	0	0	0E	0E
TOTAL, 1ST 520 INSTS.	7,260,637	6,818,029	6,059,665	5,357,817	4,749,264	4,558,821	4,093,239	3,592,219
521 MISS VALLEY STATE UNIV	0	0	0E	0	0	0	0	0
522 UNIV OF NORTHERN COLORADO	0	0	0	0	0	0	0	0
523 COL OSTEO MED OF PACIFIC	0	0	0E	0E	0	0	0E	0E
524 QUINNIPIAC COLLEGE	0	0	0	0	0	0	0	0
525 DILLARD UNIVERSITY	0	0	3	0	0	0	3	0
526 ST LOUIS COMMUNITY COL	0I	43	40E	33	0I	43E	40E	33
527 BIOLA UNIVERSITY	0	0	0	0	0	0	0	0
528 ROOSEVELT UNIVERSITY	0	0	0	382I	0	0	0	239I
529 OLIVET NAZARENE COLLEGE	0	0	0	0E	0	0	0	0E
530 WEST CHESTER STATE COL	0	0	0	0	0	0	0	0
TOTAL, 1ST 530 INSTS.	7,260,637	6,818,072	6,059,708	5,358,232	4,749,264	4,558,864	4,093,282	3,592,491
531 SLIPPERY ROCK STATE COL	0	0	0	0	0	0	0	0
532 MACALESTER COLLEGE	0	0	10E	10	0	0	10E	10
533 CONCORDIA COL MOORHEAD	0	0	0	0	0	0	0	0
534 JOHN F KENNEDY UNIVERSITY	0	0	0	0	0	0	0	0
535 HARTFORD GRADUATE CENTER	0	0	0	9	0	0	0	0
536 EDINBORO UNIVERSITY	0	8	20	0	0	0	0	0
537 ORAL ROBERTS UNIVERSITY	0E	0E	0E	0E	0E	0E	0	0
538 LINCOLN UNIVERSITY (PA)	0	150	230	110	0	150	230	110
539 COL OF OSTEO MED & SURG	0	0	0	0	0	0	0	0
540 CAL SCH PROF PSYCH-BERKLY	0	0	0	0E	0	0	0	0E
TOTAL, 1ST 540 INSTS.	7,260,637	6,818,230	6,059,968	5,358,361	4,749,264	4,559,014	4,093,522	3,592,611
541 PRATT INSTITUTE	0E	0	0	4	0E	0	0	0
542 CAL SCH PROF PSYCH-L A	0	0	0	0	0	0	0	0
543 UNIV OF HEALTH SCIENCES	0	0	0	0	0	0	0	0
544 RAND GRAD INST POL STDIES	0	0	0	0	0	0	0	0
545 UNION OF EXPER COL & UNIV	0	0	0	0	0	0	0	0
546 CAL SCH PROF PSYCH-S D	0	0	0	21	0	0	0	0
547 SEATTLE PACIFIC UNIV	0	0	72	59I	0	0	51	57I
548 PHILA COL OSTEOPATHIC MED	0E	0	0	0I	0E	0	0	0I
549 DELTA STATE UNIVERSITY	0	38	16	44	0	0	13	25
550 CALIFORNIA STATE COLLEGE	0	0	0	0	0	0	0	0
TOTAL, 1ST 550 INSTS.	7,260,637	6,818,268	6,060,056	5,358,489	4,749,264	4,559,014	4,093,586	3,592,693

SEE FOOTNOTES AT END OF TABLE.

TABLE B-27. -- TOTAL AND FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY TOTAL R&D EXPENDITURES (1982)	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
551 CAL SCH PROF PSYCH-FRESNO	0	0	0	0	0	0	0	0
552 MONMOUTH COLLEGE (NJ)	0	40I	36	40	0	0I	0	0
553 BRIDGEWATER STATE COLLEGE	0	0	0	0E	0	0	0	CE
554 LAWRENCE UNIVERSITY	0	0I	24	42	0	0I	0	3
555 US INTERNATIONAL UNIV	0	0	0	0E	0	0	0	0E
556 CENTRAL STATE UNIV (OK)	0	0	0	0	0	0	0	0
557 DREW POST-GRAD MED SCHOOL	0	0	0	0	0	0	0	0
558 HOLLINS COLLEGE	C	35	2	58	0	35	0	29
559 FIELDING INSTITUTE	0	0	0	0	0	0	0	0
560 CLARION STATE COLLEGE	0	0	0	33	0	0	0	20
TOTAL, 1ST 560 INSTS.	7,260,637	6,818,343	6,060,118	5,358,662	4,749,264	4,559,049	4,093,586	3,592,745
561 SUNY COLLEGE PLATTSBURGH	0	0	0	0	0	0	0	0
562 UNIVERSITY OF PUGET SOUND	0	0E	0	47E	0	0E	0	0
563 WAUKESHA COUNTY TECH INST	0	0	0	0I	0	0	0	0I
TOTAL, 1ST 563 INSTS.	7,260,637	6,818,343	6,060,118	5,358,709	4,749,264	4,559,049	4,093,586	3,592,745
TOTAL, ALL OTHER INSTS.	0	0	0	2,699	0	0	0	2,526

1/ INCLUDES APPLIED PHYSICS LABORATORY WITH $199 MILLION IN TOTAL AND $192 MILLION IN FEDERALLY FINANCED R&D EXPENDITURES.
2/ DOES NOT INCLUDE R&D EXPENDITURES AT UNIVERSITY ASSOCIATED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS (FFRDC'S). SEE TABLE B-70.

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-28. — NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1977-82

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY NON-FEDERAL R&D EXPENDITURES (1982)	TOTAL 1982	1981	1980	1979	1978	1977
TOTAL, ALL INSTITUTIONS	2,511,373	2,259,294	1,966,532	1,766,137	1,565,939	1,340,827
1 UNIVERSITY OF MINNESOTA	63,422	55,207	50,602	44,927	41,441	34,270
2 UNIV OF WIS-MADISON	56,501	51,295	48,865	44,131	39,069	36,574
3 CORNELL UNIVERSITY	55,231	41,372	37,028	33,294	28,650	25,334
4 TEXAS A & M UNIVERSITY	54,559	45,833	39,601	35,144	34,471	30,053
5 LOUISIANA STATE UNIV	48,594	41,128	37,190	31,785	31,081	20,366
6 UNIV OF CAL DAVIS	47,249	44,656	33,351	27,850	25,957	23,147
7 UNIVERSITY OF MICHIGAN	45,317	48,743	35,767	39,639	28,450	29,014
8 UNIVERSITY OF ARIZONA	44,134	38,314	33,536	26,714	22,046	16,798
9 UNIVERSITY OF GEORGIA	43,458	39,794	37,642	34,609	31,108	23,625
10 UNIV OF TEXAS AT AUSTIN	39,463	32,924	29,955	24,034	20,633	19,581
TOTAL, 1ST 10 INSTS.	497,928	439,266	383,537	342,127	302,906	258,762
11 UNIV OF ILL URBANA	38,622	36,683	30,947	31,302	31,831	18,762
12 IOWA ST U OF SCI & TECH	36,635	34,397	32,640	30,538	27,063	24,495
13 OHIO STATE UNIVERSITY	36,624	32,563	30,097	27,566	24,076	20,808
14 MASS INST OF TECHNOLOGY	35,271	31,963	25,166	20,625	17,489	16,979
15 UNIVERSITY OF FLORIDA	35,192	30,858	33,029E	22,790	26,565	27,804
16 UNIV OF CAL BERKELEY	35,161	33,021	26,250	21,824	20,516	19,951
17 N C STATE UNIV AT RALEIGH	34,564	31,863	27,114	26,810	22,108	19,500
18 MICHIGAN STATE UNIVERSITY	33,602	34,998	37,524	34,339	30,899	25,110
19 GEORGIA INSTITUTE OF TECH	32,770	28,988	23,826	19,011	15,605	13,584
20 UNIV OF SOUTHERN CAL	32,039	28,591	24,303	15,138	12,778	4,337
TOTAL, 1ST 20 INSTS.	848,408	763,191	674,433	592,570	531,836	449,092
21 UNIV OF PENNSYLVANIA	31,822	24,057	23,645	23,020	24,094	23,408
22 UNIV OF NEBRASKA-LINCOLN	30,262	27,521	22,227	22,972	17,481	16,801
23 PENNSYLVANIA STATE UNIV	29,011	30,457	26,839	23,195	22,043	18,779
24 OKLAHOMA STATE UNIVERSITY	28,481	26,110	12,310	15,064	11,433	10,444
25 HARVARD UNIVERSITY	27,890E	27,103E	24,524E	21,634E	20,463E	17,816
26 STANFORD UNIVERSITY	27,842	13,150	10,475	10,170	9,492	5,904
27 MISSISSIPPI STATE UNIV	27,022	23,851	20,211	18,609	15,426	13,182
28 UNIV OF MISSOURI COLUMBIA	25,374	24,769	21,017	20,576	18,815	18,109
29 PURDUE UNIVERSITY	25,350	30,966	23,724	21,604	17,990	16,867
30 UNIV OF CAL LOS ANGELES	25,072	23,136	18,569	15,394	14,288	13,321
TOTAL, 1ST 30 INSTS.	1,126,554	1,014,311	877,974	784,808	703,361	603,723
31 ROCKEFELLER UNIVERSITY	24,959	21,593	18,799	18,346	17,187	16,254
32 OREGON STATE UNIVERSITY	24,461	24,032	20,044	18,149	15,707	13,525
33 UNIV OF CAL RIVERSIDE	24,322	23,283	16,099	14,122	13,469	11,551
34 RUTGERS THE ST UNIV OF NJ	24,295	21,336	20,176	18,773	17,002	14,717
35 UNIVERSITY OF WASHINGTON	24,057	20,836	18,749	15,691	14,087	11,691
36 UNIVERSITY OF KENTUCKY	23,897	21,790	16,920	17,040	9,693	13,303
37 KANS ST U - AG & APP SCI	23,878	22,165	19,116	17,070	15,111	11,660
38 U TEXAS SYSTEM CANCER CTR	22,809	20,130	16,449	15,007	12,641	11,327
39 UNIV OF CAL SAN DIEGO	22,694	18,531	13,792	11,375	11,398	8,917
40 VA POLYTECH INST & ST U	21,942	19,443	17,224	15,545	14,649	11,920
TOTAL, 1ST 40 INSTS.	1,363,868	1,227,450	1,055,342	945,916	844,305	728,588
41 UNIVERSITY OF CONNECTICUT	21,880	18,894	16,738	15,026	13,329	13,940
42 WASHINGTON STATE UNIV	21,296	20,533	19,683	15,244	13,315	14,300
43 UNIV OF ARK FAYETTEVILLE	19,826	18,121	18,224	18,146	11,863	6,934
44 UNIV OF CAL SAN FRANCISCO	19,746	16,687	12,254	9,868	9,844	8,457
45 UNIV OF ALASKA FAIRBANKS	19,163	17,657	15,567	11,516	12,776	10,511
46 JOHNS HOPKINS UNIVERSITY	18,717	13,955	13,349	13,509E	11,472	11,413
47 UNIVERSITY OF MIAMI	17,809	16,507	12,182	11,159	11,872	7,640
48 NEW YORK UNIVERSITY	17,636	15,046	13,034	13,542	14,086	10,080
49 UNIVERSITY OF IOWA	17,135	14,322	11,429	9,551	5,977	4,771
50 UNIV OF HAWAII-MANOA	16,823	17,844	14,760	13,203	12,190	10,955
TOTAL, 1ST 50 INSTS.	1,553,899	1,397,014	1,202,562	1,076,680	961,029	827,639

SEE FOOTNOTES AT END OF TABLE.

TABLE B-28. — NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1977-82 - CONTINUED

(DOLLARS IN THOUSANDS)

	INSTITUTIONS RANKED BY NON-FEDERAL R&D EXPENDITURES (1982)	TOTAL 1982	1981	1980	1979	1978	1977
51	COLORADO STATE UNIVERSITY	16,680	14,771	12,190	11,375	9,601	8,624
52	UNIVERSITY OF OKLAHOMA	16,262	17,800	10,838	4,507	3,756	992
53	AUBURN UNIVERSITY	15,783	15,235	13,279	14,423	10,801	10,277
54	UNIVERSITY OF ROCHESTER	15,314	20,303	21,955	21,024	18,151	19,627
55	YALE UNIVERSITY	15,015	10,444	7,874	9,026	6,309	5,650
56	UTAH STATE UNIVERSITY	14,699	11,821	9,792	6,649	5,919	4,403
57	CLEMSON UNIVERSITY	14,356	13,269E	12,519	12,184	10,181	8,417
58	INDIANA UNIVERSITY	13,895	8,411	8,029	6,593	5,985	4,360
59	COLUMBIA UNIV MAIN DIV	13,760	15,339	17,678	15,219	14,757	13,975
60	NORTH DAKOTA STATE UNIV	13,673	11,464E	10,091	8,185	7,583	7,189
	TOTAL, 1ST 60 INSTS.	1,703,336	1,535,943	1,326,807	1,186,465	1,054,072	911,153
61	NORTHWESTERN UNIVERSITY	13,082	10,674	10,646	8,671	7,082	5,390
62	UNIV OF MASS AT AMHERST	12,834	10,059	6,753	7,723	6,505	6,232
63	BAYLOR COL OF MEDICINE	12,809	10,679	6,697	7,372	6,101	2,292
64	FLORIDA STATE UNIVERSITY	12,492	13,021	12,996	9,357	7,300E	7,614
65	WASHINGTON UNIVERSITY	12,441	10,671	11,623	11,232	9,955	5,293
66	UNIVERSITY OF COLORADO	12,392E	13,382E	13,424	11,909	9,695	8,087
67	UNIVERSITY OF PITTSBURGH	11,776	10,057	8,536	8,301	8,425	5,672
68	ST JOHN'S UNIVERSITY (NY)	11,580	10,412	7,883	7,527	6,955	6,046
69	SUNY AT STONY BROOK	11,564	8,960	7,723	6,766	5,861	2,623
70	UNIVERSITY OF CHICAGO	11,418	8,484	8,318	13,297	13,908	13,223
	TOTAL, 1ST 70 INSTS.	1,825,724	1,642,342	1,421,406	1,278,620	1,135,859	973,625
71	WEST VIRGINIA UNIVERSITY	10,604	8,836	8,285	6,574	4,565	5,182
72	UNIV OF MAINE ORONO	10,450	9,794	8,514	5,793	5,630	5,591
73	CARNEGIE-MELLON UNIV	10,138	10,227	9,663	8,797	8,766	6,807
74	PRINCETON UNIVERSITY	10,099	7,605	6,926	6,891	5,447	6,553
75	SYRACUSE UNIVERSITY	9,619	8,431	7,891	5,760	5,198	996
76	SUNY AT BUFFALO	9,425	9,378	7,773	7,530	7,351	3,223
77	INST OF AGRI UNIV OF TENN	9,390	8,142	8,833I	7,808I	6,928	5,454
78	SUNY UPSTATE MEDICAL CTR	9,244	2,316E	2,316E	2,144	1,930I	1,653
79	CASE WESTERN RESERVE UNIV	9,082	9,927	10,967	10,245	8,294	7,771
80	UNIVERSITY OF NEW MEXICO	9,009	6,409	5,218	8,279	5,896	3,948
	TOTAL, 1ST 80 INSTS.	1,922,784	1,723,407	1,497,792	1,348,441	1,195,824	1,020,813
81	UNIV OF P R-MAYAGUEZ	8,987I	8,343I	7,273	6,672	7,097E	6,777E
82	UNIVERSITY OF UTAH	8,746	7,313	5,587	5,660	5,641	6,273
83	WAYNE STATE UNIVERSITY	8,639	9,377	8,622	7,583	7,615	4,213
84	TULANE UNIVERSITY	8,593	8,652	4,436	4,197	4,036	4,162
85	NEW MEXICO STATE UNIV	8,584	7,877	3,900	3,144	1,851E	1,530
86	RENSSELAER POLYTECH INST	8,536	7,754	5,632	3,254	2,211	1,768
87	UNIVERSITY OF CINCINNATI	8,513	13,362	12,950	11,495	15,187	13,433
88	UNIV OF NC AT CHAPEL HILL	8,476	10,098	7,344	6,530	6,083	5,835
89	MONTANA STATE UNIVERSITY	8,417	7,720	7,233	7,358	6,553	5,420
90	UNIVERSITY OF DELAWARE	8,335	7,789	7,566	6,246	4,788	4,381
	TOTAL, 1ST 90 INSTS.	2,008,610	1,811,492	1,568,335	1,410,580	1,256,926	1,074,605
91	CUNY MT SINAI SCH OF MED	8,301	5,436	5,536	5,244	5,078	3,272
92	TEXAS TECH UNIVERSITY	7,916	7,509	6,669	6,458	5,493	3,949
93	THE OREG HLTH SCI UNIV	7,735	3,564E	4,018	1,940E	1,971I	1,665
94	U TEX MED BRNCH GALVESTON	7,640	6,263	5,654	5,133	4,281	4,639
95	YESHIVA UNIVERSITY	7,476	4,700	11,126	6,580	4,670	2,578E
96	UNIVERSITY OF WYOMING	7,303	6,620	4,816	3,970	4,005	3,822
97	U OF HOUSTON CENTRAL CAM	7,273	7,146	6,474	6,604	3,582I	3,103
98	LEHIGH UNIVERSITY	7,232	4,778	4,282	4,091	3,858	3,428
99	UNIVERSITY OF KANSAS	7,112	2,836	3,193	7,806I	6,919	5,635
100	U TEX HLTH SCI CTR DALLAS	6,937	5,978	5,715	4,741	4,046	3,372
	TOTAL, 1ST 100 INSTS.	2,083,535	1,866,522	1,625,818	1,463,147	1,300,829	1,110,068

SEE FOOTNOTES AT END OF TABLE.

TABLE B-28. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1977-82 - CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY NON-FEDERAL R&D EXPENDITURES (1982)	TOTAL 1982	1981	1980	1979	1978	1977
101 GEORGETOWN UNIVERSITY	6,884	8,496	7,944	6,359	5,278	6,527
102 U OF CAL SYS WIDE PRGMS	6,822	7,015	4,912	3,737	4,124	3,594
103 UNIVERSITY OF VIRGINIA	6,769	4,805	3,691	2,985	2,537	3,987E
104 UNIV OF MD COLLEGE PARK	6,730	18,836	16,743	12,269	11,980	10,760
105 SOUTH DAKOTA STATE UNIV	6,479	5,202	4,759	4,341	4,327	3,821
106 UNIV OF NEVADA - RENO	6,254	1,642	4,325	3,702	3,841	3,216
107 U TEX HLTH SCI CTR S ANTO	6,022	5,364	3,814	3,383	3,117	1,289
108 TEMPLE UNIVERSITY	5,962	4,181	4,927	4,367	4,311	4,542
109 UNIV OF SOUTH CAROLINA	5,688	2,104I	1,755E	1,688	1,029I	885
110 UNIV OF VT & ST AGRIC COL	5,686	5,024	4,045	3,800	3,478	3,289
TOTAL, 1ST 110 INSTS.	2,146,831	1,929,191	1,682,733	1,509,778	1,344,851	1,151,978
111 UNIV OF NEW HAMPSHIRE	5,604	4,465	3,923	3,811	4,250	3,527
112 UNIV ALABAMA BIRMINGHAM	5,558	4,786	5,788	4,682	2,933	2,374
113 SOUTHERN ILL U-CARBONDALE	5,444	4,608	3,545	3,226	2,557	2,167
114 VANDERBILT UNIVERSITY	5,344	4,629	4,072	3,669	3,464	2,731
115 MICHIGAN TECH UNIVERSITY	5,341	5,046	5,290	4,314	3,869	3,305
116 UNIV OF CAL IRVINE	5,222	5,347	3,092	2,994	2,367	2,253
117 UNIVERSITY OF IDAHO	5,145	11,278	7,319	7,121	7,387	8,517
118 COL OF MED & DENT OF N J	5,008	4,382	3,299	3,560	2,376	737
119 MEDICAL COLLEGE OF WIS	5,000I	4,445I	3,991	3,243	2,753	1,596
120 UNIV OF ILL CHICAGO CIR	4,992	3,217	3,196	2,706	1,181	1,274
TOTAL, 1ST 120 INSTS.	2,199,489	1,981,394	1,726,248	1,549,104	1,377,988	1,180,459
121 UNIVERSITY OF DENVER	4,828	5,098	3,957	3,980	1,711	2,154
122 WOODS HOLE OCNGRPHIC INST	4,723	5,162	4,167	3,290	3,491	2,681
123 UNIV OF ILL MED CTR CHGO	4,671I	4,135	4,315	3,098	2,938	2,298
124 CALIFORNIA INST OF TECH	4,666	5,340	4,929	4,394	3,448	4,776
125 INSTITUTE PAPER CHEMISTRY	4,637	4,418	3,616E	3,430	3,069	2,380
126 UNIV OF RHODE ISLAND	4,600E	2,540	3,085E	2,857	445I	307
127 TENNESSEE STATE UNIV	4,542	4,131	670E	-	-	-
128 SUNY COL OF ENV SCI & FOR	4,485I	4,184	4,013	4,332	4,195	1,327
129 UNIVERSITY OF MISSISSIPPI	4,398E	4,102	3,755	3,263E	2,993	1,105
130 UNIV OF WIS-MILWAUKEE	4,394	4,080	3,324	3,667	3,279	3,110
TOTAL, 1ST 130 INSTS.	2,245,433	2,024,584	1,762,079	1,581,415	1,403,557	1,200,597
131 UNIV OF MISSOURI ROLLA	4,230	3,812	3,357	2,933	2,885	2,548
132 GEORGE WASHINGTON UNIV	4,194	2,638	2,181	2,685	2,182	1,486
133 SUNY DOWNSTATE MED CTR	4,043	4,314	3,441	2,605	2,149	2,193
134 ALBANY MEDICAL COLLEGE	3,946	6,488	6,069	4,787	2,780	4,231
135 UNIV OF WEST FLORIDA	3,901	3,272	2,366	1,365	-	1,483
136 UNIV OF CAL SANTA CRUZ	3,854	3,124	2,021	1,843	1,874	1,538
137 RUSH UNIVERSITY	3,756	4,047	2,620	2,386	2,076	879
138 UNIV OF CENTRAL FLORIDA	3,673	2,802	2,729	867	-	1,623
139 ARIZONA STATE UNIVERSITY	3,671	1,440	999	3,595	1,040	1,364
140 U TEX HLTH SCI CTR HOUSTN	3,661	3,041	2,529	1,839	1,793	1,521
TOTAL, 1ST 140 INSTS.	2,284,362	2,059,562	1,790,391	1,606,320	1,420,336	1,219,463
141 VIRGINIA COMMONWLTH UNIV	3,533	3,392	3,444	2,854	2,261	2,320
142 EMORY UNIVERSITY	3,408	2,941	2,167	1,674	1,490	1,182
143 UNIVERSITY OF LOUISVILLE	3,345	2,491	2,305	3,003	3,808	2,230
144 OHIO UNIVERSITY	3,260	2,030	1,587	1,132	342	243
145 BOSTON UNIVERSITY	3,229	2,881	2,155	2,140	1,994	1,858
146 BRANDEIS UNIVERSITY	3,167	1,176	712	547	257	731
147 U MASS MED SCHL WORCESTER	3,155	2,416	1,272	1,374	1,093	846
148 BROWN UNIVERSITY	2,986	2,193	2,575	2,221	1,929	1,865
149 DESERT RESEARCH INSTITUTE	2,977	3,309	2,839	3,218	2,432	1,257
150 OLD DOMINION UNIVERSITY	2,955I	2,781I	2,460E	121	224	134
TOTAL, 1ST 150 INSTS.	2,316,377	2,085,172	1,811,907	1,624,604	1,436,166	1,232,129

SEE FOOTNOTES AT END OF TABLE.

TABLE B-28. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1977-82 - CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONS RANKED BY NON-FEDERAL R&D EXPENDITURES (1982)	TOTAL 1982	1981	1980	1979	1978	1977
151 N MEX INST MINING & TECH	2,935	2,882	2,301	1,810	1,001	492
152 UNIV OF MISSOURI SYS OFF	2,900	3,166	3,072	2,727	2,713	2,672
153 UNIVERSITY OF N DAKOTA	2,856	1,211I	983E	932I	821	613
154 FLORIDA A & M UNIVERSITY	2,829	394	191I	117	-	40
155 NORTHERN ILLINOIS UNIV	2,798	3,932	2,665	2,136	213	510I
156 U OF NEB MED CTR AT OMAHA	2,673	2,206	2,206	2,219	1,936	1,788
157 UNIV OF SOUTH FLORIDA	2,635	2,750	2,012	1,800	1,647	2,111
158 DARTMOUTH COLLEGE	2,515	3,750	1,127	994	651	631
159 U TENNESSEE KNOXVILLE	2,513	3,940	3,573E	3,573	3,330	1,177
160 WRIGHT STATE UNIVERSITY	2,496	2,709	1,558	1,560	2,631	331
TOTAL, 1ST 160 INSTS.	2,343,527	2,112,112	1,831,595	1,642,472	1,451,109	1,242,496
161 BRIGHAM YOUNG UNIVERSITY	2,483	2,761I	2,481E	2,298	2,177	2,413
162 UNIV OF CAL SANTA BARBARA	2,469	1,624	2,889	2,457	1,751	1,279
163 DUKE UNIVERSITY	2,417E	4,999	2,901	5,168	5,227	3,225
164 THE MEDICAL COL OF PENNA	2,397	649	270	316	403	397
165 WORCESTER POLY INSTITUTE	2,394	1,517	1,661	2,221	1,859	1,897
166 UNIVERSITY OF DAYTON	2,386	1,330	1,690	2,214	1,594	1,180
167 NEW YORK INST TECHNOLOGY	2,365I	2,197E	2,197	2,220	-	755
168 THOMAS JEFFERSON UNIV	2,363	2,585	1,793E	1,740	1,515	1,413
169 RICE UNIVERSITY	2,301E	2,191	1,845	1,549I	1,382	1,259
170 UNIVERSITY OF OREGON MAIN	2,241	1,512	1,211	1,378	1,164	2,871
TOTAL, 1ST 170 INSTS.	2,367,343	2,133,477	1,850,533	1,664,033	1,468,181	1,259,185
171 TUFTS UNIVERSITY	2,240I	1,793E	1,724	2,575E	2,482I	2,168
172 MED UNIV OF SO CAROLINA	2,235	1,980	1,841	810	1,244	1,176
173 U OF MD CENTER FOR EES	2,179	2,149	2,555	1,840	1,557	1,540
174 NORTH TEXAS STATE UNIV	2,142	1,637	1,486E	1,448	1,419	1,126
175 SUNY AT ALBANY	2,100	2,053	1,505E	1,474	1,328	922
176 HOWARD UNIVERSITY	2,066	2,183	3,486	1,500	2,026	508
177 UNIVERSITY OF MONTANA	1,997	1,431	1,359	2,232	1,166	1,096
178 CALIF ST COL STANISLAUS	1,948	1,734	1,684	82	-	22
179 UNIV OF TEXAS AT DALLAS	1,883	1,806	2,065	1,456	983	-
180 LOYOLA UNIV - CHICAGO	1,803	1,132	692I	640E	610	293
TOTAL, 1ST 180 INSTS.	2,387,936	2,151,375	1,868,936	1,678,090	1,480,998	1,268,036
181 STEVENS INSTITUTE OF TECH	1,780	1,740	1,670	1,574	1,803	1,346
182 TEXAS A & I UNIVERSITY	1,774	1,288	946	805	-	767
183 U OF ARKANSAS MED SCI CAM	1,764	1,110	1,236	869	853	680
184 UNIV TENN CTR HEALTH SCI	1,754	1,538	1,347	1,717	1,244	1,226
185 CATHOLIC UNIV OF P R	1,731	1,498	127I	115	0E	-
186 UNIVERSITY OF NEW ORLEANS	1,720	1,548	1,787	1,470	1,274	765
187 UNIV OF ARK PINE BLUFF	1,697	1,493	1,458	1,379	-	1,228
188 ST LOUIS UNIVERSITY	1,644I	1,400E	1,556E	1,556	621E	1,706I
189 SUNY AT BINGHAMTON	1,635	1,299	1,240	929	529	560
190 SAN JOSE STATE UNIVERSITY	1,622	702	473I	386E	-	368
TOTAL, 1ST 190 INSTS.	2,405,057	2,164,991	1,880,776	1,688,890	1,487,322	1,276,682
191 U HLTH SCI/CHCGO MED SCH	1,616	1,494	327I	296	184	244
192 MED COL OF OHIO AT TOLEDO	1,615I	1,437E	1,437	945	825	828
193 TEXAS COL OF OSTEO MED	1,560	520	420	576	427	-
194 DREXEL UNIVERSITY	1,556	1,694	1,407	1,113	1,638	840
195 UNIV OF P R-RIO PIEDRAS	1,551I	1,435I	1,247I	1,103I	979	810
196 SAN DIEGO STATE UNIV	1,547	726	861	1,076	872	881
197 NORTHEASTERN UNIVERSITY	1,533	1,726	927I	857	1,110	933
198 WESLEYAN UNIVERSITY	1,419I	1,220	660E	660	580	428
199 UNIVERSITY OF NOTRE DAME	1,389	1,187	1,029	991	782	772
200 WAKE FOREST UNIVERSITY	1,376I	1,138E	1,084E	1,025E	969	758
TOTAL, 1ST 200 INSTS.	2,420,219	2,177,568	1,890,175	1,697,532	1,495,688	1,283,176
TOTAL, ALL OTHER INSTS.	91,154	81,726	76,357	68,605	70,251	57,651

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-29. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1982

DOCTORATE-GRANTING INSTITUTIONS

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	7,134,296	4,668,864	570,970	318,741	1,082,835	492,886
1 JOHNS HOPKINS UNIVERSITY	289,940	271,223	2,592	192	4,947	10,586
2 MASS INST OF TECHNOLOGY	192,462	157,191	801	17,195	923	16,352
3 UNIV OF WIS-MADISON	157,520	101,019	29,612	3,446	14,610	8,833
4 STANFORD UNIVERSITY	147,941	120,099	507	8,969	15,052	3,314
5 UNIVERSITY OF MINNESOTA	146,466	83,044	15,398	4,720	32,749	10,555
6 CORNELL UNIVERSITY	145,769	90,538	22,678	7,495	14,933	10,125
7 UNIV OF CAL SAN DIEGO	138,896	116,200	1,327	0	10,372	10,995
8 UNIVERSITY OF WASHINGTON	133,115	109,058	5,312	5,140	1,180	12,425
9 UNIVERSITY OF MICHIGAN	119,973	74,656	1,010	7,408	27,047	9,852
10 COLUMBIA UNIV MAIN DIV	115,734	101,974	179	459	2,467	10,655
TOTAL, 1ST 10 INSTS.	1,587,814	1,225,002	79,416	55,024	124,280	104,092
11 HARVARD UNIVERSITY	114,941E	87,051	320E	4,550E	7,274E	15,746E
12 UNIV OF PENNSYLVANIA	112,836	81,014	917	2,592	10,276	18,037
13 UNIV OF CAL LOS ANGELES	103,294	78,222	1,155	0	10,939	12,978
14 UNIV OF CAL BERKELEY	102,369	67,208	3,206	0	25,120	6,835
15 UNIV OF ILL URBANA	95,869	57,247	5,569	1,598	27,482	3,973
16 UNIV OF CAL SAN FRANCISCO	95,282	75,536	1,077	0	7,652	11,017
17 UNIV OF TEXAS AT AUSTIN	92,069	52,606	5,412	1,624	22,772	9,655
18 TEXAS A & M UNIVERSITY	91,780	37,221	39,290	4,933	2,691	7,645
19 YALE UNIVERSITY	91,232	76,217	2,363	905	10,487	1,260
20 UNIV OF CAL DAVIS	89,784	42,535	4,353	0	35,961	6,935
TOTAL, 1ST 20 INSTS.	2,577,270	1,879,859	143,078	71,226	284,934	198,173
21 UNIVERSITY OF ARIZONA	88,247	44,113	17,577	2,554	13,061	4,942
22 UNIV OF SOUTHERN CAL	87,140	55,101	3,232	5,323	20,005	3,579
23 OHIO STATE UNIVERSITY	82,614	45,990	13,803	4,260	7,321	11,240
24 PENNSYLVANIA STATE UNIV	82,034	53,023	1,703	10,581	16,604	123
25 MICHIGAN STATE UNIVERSITY	71,922	38,320	13,439	2,200	15,568	2,395
26 GEORGIA INSTITUTE OF TECH	71,402	38,632	1,767	11,359	19,644	0
27 UNIVERSITY OF CHICAGO	69,018	57,600	27	950	5,896	4,545
28 UNIVERSITY OF FLORIDA	68,370	33,178	2,810	3,650	23,649	5,083
29 WASHINGTON UNIVERSITY	68,049	55,608	526	2,388	4,050	5,477
30 PURDUE UNIVERSITY	67,299	41,949	8,868	7,405	6,975	2,102
TOTAL, 1ST 30 INSTS.	3,333,365	2,343,373	206,830	127,795	417,707	237,659
31 LOUISIANA STATE UNIV	66,814	18,220	27,590	1,720	15,911	3,373
32 UNIVERSITY OF COLORADO	66,377E	53,985E	53	2,860E	3,251E	6,228E
33 NEW YORK UNIVERSITY	66,139	48,503	354	2,952	6,304	8,026
34 UNIVERSITY OF ROCHESTER	65,547	50,233	1,541	4,561	4,288	4,924
35 UNIVERSITY OF GEORGIA	65,161	21,703	738	3,059	39,149	512
36 OREGON STATE UNIVERSITY	56,769	32,308	14,386	2,782	1,881	5,412
37 N C STATE UNIV AT RALEIGH	55,781	21,217	25,695I	2,712I	4,914I	1,243I
38 UNIVERSITY OF IOWA	55,406	38,271	317	1,600	12,927	2,291E
39 IOWA ST U OF SCI & TECH	55,294	18,659	15,490	2,106	16,729	2,302
40 UNIVERSITY OF CONNECTICUT	55,109	33,229	1,679	1,570	9,940	8,691
TOTAL, 1ST 40 INSTS.	3,941,762	2,679,701	294,681	153,718	533,001	280,661
41 YESHIVA UNIVERSITY	52,235	44,759	0	0	3,914	3,562E
42 UNIVERSITY OF MIAMI	51,899	34,090	461	4,605	10,922	1,821
43 DUKE UNIVERSITY	49,655E	47,238E	382I	510I	631I	894I
44 BAYLOR COL OF MEDICINE	48,661	35,852	88	3,054	4,132E	5,535
45 UNIV OF NC AT CHAPEL HILL	47,711	39,235	3,191	815	2,471	1,999
46 COLORADO STATE UNIVERSITY	46,641	29,961	8,094	5,130	2,907	549
47 UNIVERSITY OF PITTSBURGH	46,548	34,772	341	1,445	5,587	4,403
48 ROCKEFELLER UNIVERSITY	46,172	21,213	123	1,740	16,556	6,540
49 NORTHWESTERN UNIVERSITY	45,810	32,728	115	895	6,936	5,136
50 UNIV OF NEBRASKA-LINCOLN	[illegible]	[illegible] 890	1,405	1,037	26,109	1,731
TOTAL, 1ST 50 INSTS.	4,421,266	3,013,439	308,881	172,949	613,166	312,831

SEE FOOTNOTES AT END OF TABLE.

TABLE B-29. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1982 - CONTINUED

DOCTORATE-GRANTING INSTITUTIONS

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 CALIFORNIA INST OF TECH	44,048	39,382	365	2,025	532	1,744
52 UNIVERSITY OF UTAH	43,765	36,019	3,472	1,432	1,694	2,148
53 UNIV OF HAWAII-MANOA	43,439	26,616	14,376	260	1,445	742
54 CASE WESTERN RESERVE UNIV	43,129	34,047	438	1,896	2,863	3,885
55 RUTGERS THE ST UNIV OF NJ	42,938	18,643	7,640	1,264	14,009	1,382
56 INDIANA UNIVERSITY	42,558	28,663	747	1,463	8,886	2,799
57 UNIV OF MISSOURI COLUMBIA	40,978	15,604	9,049	983	12,606	2,736
58 U TEXAS SYSTEM CANCER CTR	40,369	17,560	0	0	18,139	4,670
59 VA POLYTECH INST & ST U	39,909	17,967	12,417	6,515	3,010	0
60 OKLAHOMA STATE UNIVERSITY	39,472	10,991	2,117	2,100	24,264	0
TOTAL, 1ST 60 INSTS.	4,841,871	3,257,931	359,502	190,887	700,614	332,937
61 UNIVERSITY OF KENTUCKY	38,907	15,010	9,140	3,337	11,420	0
62 UNIV OF ALASKA FAIRBANKS	38,218	19,055	3,242	2,882	12,492	547
63 CARNEGIE-MELLON UNIV	37,316	27,178	578	4,844	522	4,194
64 PRINCETON UNIVERSITY	36,641	26,542	85	693	6,837	2,484E
65 MISSISSIPPI STATE UNIV	36,582	9,560	14,444	1,536	9,590	1,452
66 SUNY AT STONY BROOK	36,468	24,904	1,250	511	5,524	4,279
67 UNIV ALABAMA BIRMINGHAM	35,792	30,234	4	1,509	1,149	2,896
68 UNIV OF CAL RIVERSIDE	35,539	11,217	2,703	0	19,867	1,752
69 KANS ST U - AG & APP SCI	34,806	10,928	14,654	1,147	5,841	2,236
70 NEW MEXICO STATE UNIV	34,650	26,066	3,646	0	260	4,678
TOTAL, 1ST 70 INSTS.	5,206,790	3,458,625	409,248	207,346	774,116	357,455
71 WASHINGTON STATE UNIV	34,257	12,961	18,431	2,865	0	0
72 UNIV OF MD COLLEGE PARK	34,251	27,521	3,209E	1,006E	2,515E	0
73 UTAH STATE UNIVERSITY	33,822	19,123	6,645	703	5,371	1,980
74 WOODS HOLE OCNGRPHIC INST	33,725	29,002	68	692	953	3,010
75 UNIVERSITY OF VIRGINIA	33,661	26,892	733	1,877	1,578	2,581
76 U TEX HLTH SCI CTR DALLAS	32,058	25,121	3	1,915	35	4,984
77 UNIV OF CAL IRVINE	31,456	26,234	695	0	1,882	2,645
78 UNIVERSITY OF NEW MEXICO	30,977	21,968	3,038	2,645	2,234	1,092
79 BOSTON UNIVERSITY	30,603	27,374	803	965	46	1,415
80 CUNY MT SINAI SCH OF MED	29,797	21,496	113	849	2,998	4,341
TOTAL, 1ST 80 INSTS.	5,531,397	3,696,317	442,986	220,863	791,728	379,503
81 UNIVERSITY OF OKLAHOMA	29,785	13,523	564	1,642	13,452	604
82 UNIV OF MASS AT AMHERST	28,887	16,053	3,440	1,601	6,888	905
83 UNIVERSITY OF CINCINNATI	28,573	20,060	108	1,133	3,435	3,837
84 SUNY AT BUFFALO	27,800	18,375	654	0	6,735	2,036
85 UNIV OF ARK FAYETTEVILLE	26,653	6,827	8,195	1,402	9,084	1,145
86 VANDERBILT UNIVERSITY	24,993	19,649	519	2,146	1,153	1,526
87 CLEMSON UNIVERSITY	23,552	9,196	481	2,319	11,556	0
88 GEORGE WASHINGTON UNIV	23,334	19,140	97	44	2,906	1,147
89 AUBURN UNIVERSITY	23,256	7,473	9,274	1,560	4,629	320
90 UNIV OF RHODE ISLAND	23,000E	18,400E	4,600I	0	0	0
TOTAL, 1ST 90 INSTS.	5,791,230	3,845,013	470,918	232,710	851,566	391,023
91 FLORIDA STATE UNIVERSITY	22,877	10,385	296	140	11,180	876
92 VIRGINIA COMMONWLTH UNIV	22,385	18,852	184	299	1,514	1,536
93 WAYNE STATE UNIVERSITY	21,542	12,903	387	1,678	4,099	2,475
94 TEMPLE UNIVERSITY	21,503	15,541	196	379	2,052	3,335
95 EMORY UNIVERSITY	21,423	18,015	345	1,271	278	1,514
96 BROWN UNIVERSITY	21,331	18,345	130	2,236	450	200
97 WEST VIRGINIA UNIVERSITY	21,080	10,476	8,071	704	117	1,713
98 UNIVERSITY OF KANSAS	20,534	13,422	4,453I	0	2,230I	429I
99 RENSSELAER POLYTECH INST	20,302	11,766	240	2,848	4,530	918
100 SYRACUSE UNIVERSITY	19,442	9,823	722	1,481	7,130	286
TOTAL, 1ST 100 INSTS.	6,003,649	3,984,541	485,912	243,746	885,146	404,304
TOTAL, ALL OTHER INSTS.	1,130,647	684,323	85,058	74,995	197,689	88,582

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-29. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

MASTER'S-GRANTING INSTITUTIONS 1

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	102,581	62,857	13,090	6,171	12,919	7,544
1 TENNESSEE STATE UNIV	11,372	6,830	1,692I	456I	1,506I	888I
2 SAN JOSE STATE UNIVERSITY	5,586	3,964	510I	772I	328I	12I
3 UNIV OF WEST FLORIDA	5,552	1,651	1,509	23	2,364	5
4 PRAIRIE VIEW A & M UNIV	4,079	3,760	186I	0	0	113I
5 FLORIDA A & M UNIVERSITY	4,074	1,245	1,621	273	935	0
6 NC AG & TECH STATE UNIV	2,787	2,641	146	0	0	0
7 MCNEESE STATE UNIVERSITY	2,710	2,694	7	0	1	8
8 SOUTHERN U & A&M COLLEGE	2,387	2,361	0	0	26	0
9 UNIV OF MASS BOSTON	2,330I	1,285I	163I	0	335I	547I
10 VIRGINIA STATE UNIVERSITY	2,033I	1,868I	52I	17I	58I	38I
TOTAL, 1ST 10 INSTS.	42,910	28,319	5,886	1,541	5,553	1,611
11 GALLAUDET COLLEGE	2,013	1,893	120	0	0	0
12 CALIF ST COL STANISLAUS	1,948	0	0	6	0	1,942
13 CUNY QUEENS COLLEGE	1,934	1,220	0	95	448	171
14 UNIVERSITY OF GUAM	1,862	949	448	0	465	0
15 ALABAMA A & M UNIVERSITY	1,861	1,861	0	0	0	0
16 CUNY BROOKLYN COLLEGE	1,748I	1,055I	0	0	693I	0
17 EASTERN WASHINGTON UNIV	1,737	800	729	3	188	17
18 SUNY COLLEGE BUFFALO	1,637I	1,439I	73I	22I	60I	43I
19 SUNY COLLEGE NEW PALTZ	1,471I	656I	747I	0	0	68I
20 MONT COL MINRL SCI & TECH	1,351	1,132	98	81	40	0
TOTAL, 1ST 20 INSTS.	60,472	39,324	8,101	1,748	7,447	3,852
21 HARVEY MUDD COLLEGE	1,286	573	0	690	23	0
22 ROCHESTER INST TECHNOLOGY	1,266I	665I	0	91	334I	258I
23 CALIF ST UNIV FULLERTON	1,243	466	589	63	0	125
24 JACKSON STATE UNIVERSITY	1,220I	900I	58I	101I	32I	129I
25 UNIV OF NEVADA LAS VEGAS	1,201	967	105	6	123	0
26 SAN FRANCISCO STATE UNIV	1,183	1,007	3	48	21	104
27 UNIV OF WIS-SUPERIOR	1,139	1,056	19	4	59	1
28 CALIF ST UNIV LOS ANGELES	1,120	944	0	36	116	24
29 UNIVERSITY OF D C	1,058	882	0	0	176	0
30 TUSKEGEE INSTITUTE	973E	973E	0	0	0	0
TOTAL, 1ST 30 INSTS.	72,161	47,757	8,875	2,705	8,331	4,493
31 OCCIDENTAL COLLEGE	965	107	0	730	128	0
32 MANHATTAN COLLEGE	898	792	0	0	91	15
33 CALIF ST UNIV LONG BEACH	849	625	27	173	18	6
34 SOUTHWEST MISSOURI ST U	841	70	13	286	472	0
35 WESTERN ILLINOIS UNIV	775	141	237	96	273	28E
36 CHICAGO STATE UNIVERSITY	739I	67*I	19I	6I	21I	14I
37 XAVIER UNIVERSITY	738I	303I	67I	129I	15I	224I
38 CAL POLY ST U SAN LUIS OB	725	271	216	231	7	0
39 WESTERN WASHINGTON UNIV	721	284	82	230	125	0
40 TRINITY UNIVERSITY	704	603	4	0	54	43
TOTAL, 1ST 40 INSTS.	80,116	51,632	9,540	4,586	9,535	4,823
41 CUNY BERNARD BARUCH COL	689I	155I	0	240I	134I	160I
42 WILLIAMS COLLEGE	682I	606I	0	0	76I	0
43 WESTERN KENTUCKY UNIV	680	215	247	86	132	0
44 U TENNESSEE CHATTANOOGA	658E	107E	0	0	0	551E
45 TEXAS SOUTHERN UNIV	643	529	0	0	44	70
46 HUMBOLDT STATE UNIVERSITY	620	459	95	0	58	8
47 UNIV OF SAN FRANCISCO	595	371	0	81	79	64
48 MILWAUKEE SCHOOL OF ENG	527I	0I	0	0	421I	106I
49 UNIV OF WIS-GREEN BAY	526	420	0	31	60	15
50 SOUTHWEST TEXAS ST UNIV	515	155	128	36	72	124
TOTAL, 1ST 50 INSTS.	86,251	54,649	10,010	5,060	10,611	5,921
TOTAL, ALL OTHER INSTS.	16,330	8,208	3,080	1,111	2,308	1,623

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SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-29. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY HIGHEST DEGREE GRANTED AND SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

OTHER INSTITUTIONS

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	23,760	17,543	1,499	682	1,848	2,188
1 UNIV OF ARK PINE BLUFF	3,199	1,502	1,296	25	360	16
2 WELLESLEY COLLEGE	1,905	957	0	0	0	948
3 US NAVAL ACADEMY	1,619	1,598	0	0	0	21
4 U OF MD EASTERN SHORE	1,376I	982I	0	0	394I	0
5 WENTWORTH INST OF TECH	1,271	1,268	0	0	0	3
6 SOUTH CAROLINA ST COLLEGE	1,263	1,255	0	0	8	0
7 POMONA COLLEGE	972I	897I	0	0	0	75I
8 KENTUCKY STATE UNIVERSITY	941I	941I	0	0	0	0
9 ALCORN STATE UNIVERSITY	860I	855I	2I	1I	2I	0
10 EMMANUEL COLLEGE	731I	728I	0	0	3I	0
TOTAL, 1ST 10 INSTS.	14,137	10,983	1,298	26	767	1,063
11 AMHERST COLLEGE	721	681	0	0	40	0
12 COL OF THE VIRGIN ISLANDS	711I	608I	93I	0	10I	0
13 DENISON UNIVERSITY	662I	263I	0	0	35I	364I
14 BOWDOIN COLLEGE	622	182	37	9[illegible]	62	248
15 NORFOLK STATE UNIVERSITY	595I	591I	2I	1I	1I	0
16 CUNY YORK COLLEGE	532E	480	49E	0E	3	0
17 REED COLLEGE	469	404	0	0	14	51
18 US AIR FORCE ACADEMY	442I	442E	0	0	0	0
19 UNIV OF WIS-PARKSIDE	406	292	1	107	6	0
20 REGIS COLLEGE	386	386	0	0	0	0
TOTAL, 1ST 20 INSTS.	19,683	15,312	1,480	227	938	1,726
21 US MILITARY ACADEMY	377I	49I	0	0	328I	0
22 HAVERFORD COLLEGE	306	272	0	0	8	26
23 MEMB INST OF NAVAL ARCH	301I	185I	0	116I	0	0
24 BARNARD COLLEGE	290I	181I	0	39I	58I	12I
25 VIRGINIA MILITARY INST	211	143	3	65	0	0
26 UNIV OF ALBUQUERQUE	206I	179I	1I	2I	6I	18I
27 GRINNELL COLLEGE	198I	95I	0	5I	39I	59I
28 ALBANY STATE COLLEGE	195	195	0	0	0	0
29 ILLINOIS BENEDICTINE COL	186	48	0	62	76	0
30 MILWAUKEE AREA TECH COL	168	83	0	0	85E	0
TOTAL, 1ST 30 INSTS.	22,121	16,742	1,484	516	1,538	1,841
31 COLORADO COLLEGE	150I	41I	0	0	26I	83I
32 WASHINGTON & LEE UNIV	137	23	0	0	105	9
33 GOUCHER COLLEGE	132I	57I	0	0	75I	0
34 COLLEGE OF WOOSTER	130I	88I	0	32I	8I	2I
35 KNOX COLLEGE	109	98	0	0	11I	0
36 ST OLAF COLLEGE	102	35	0	0	0	67
37 BELOIT COLLEGE	97	81	0	6	10	0
38 LINFIELD COLLEGE	92I	25I	0	6I	32I	29I
39 US COAST GUARD ACADEMY	90I	90I	0	0	0	0
40 OKLA PANHANDLE STATE UNIV	88I	0I	0	40I	0	48I
TOTAL, 1ST 40 INSTS.	23,248	17,280	1,484	600	1,805	2,079
41 CARLETON COLLEGE	68	16	0	32	0	20
42 UNIVERSITY OF DALLAS	66I	0I	0	0	22I	44I
43 SIMMONS COLLEGE	65I	54I	0	0	6I	5I
44 FRANKLIN & MARSHALL COL	58I	49I	0	0	9I	0
45 CANISIUS COLLEGE	47	0	0	47	0	0
46 AUSTIN COLLEGE	42I	8I	0	0	0	34I
47 AUGSBURG COLLEGE	40I	26I	8I	0	0	6I
48 ATHENS STATE COLLEGE	37	37	0	0	0	0
49 AUGUSTANA COLLEGE	32	29	0	1	2	0
50 FAIRFIELD UNIVERSITY	22	13	3	2	4	0
TOTAL, 1ST 50 INSTS.	23,725	17,512	1,495	682	1,848	2,188
TOTAL, ALL OTHER INSTS.	35	31	4	0	0	0

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-30. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SOURCE OF FUNDS: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

	INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
	TOTAL, ALL INSTITUTIONS	7,260,637	4,749,264	585,559	325,594	1,097,602	502,618
1	JOHNS HOPKINS UNIVERSITY	289,940	271,223	2,592	192	4,947	10,986
2	MASS INST OF TECHNOLOGY	192,462	157,191	801	17,195	923	16,352
3	UNIV OF WIS-MADISON	157,520	101,019	29,612	3,446	14,610	8,833
4	STANFORD UNIVERSITY	147,941	120,099	507	8,969	15,052	3,314
5	UNIVERSITY OF MINNESOTA	146,466	83,044	15,398	4,720	32,749	10,555
6	CORNELL UNIVERSITY	145,769	90,538	22,678	7,495	14,933	10,125
7	UNIV OF CAL SAN DIEGO	138,894	116,200	1,327	0	10,372	10,995
8	UNIVERSITY OF WASHINGTON	133,115	109,058	5,312	5,140	1,180	12,425
9	UNIVERSITY OF MICHIGAN	119,973	74,656	1,010	7,408	27,047	9,852
10	COLUMBIA UNIV MAIN DIV	115,734	101,974	179	459	2,467	10,655
	TOTAL, 1ST 10 INSTS.	1,587,814	1,225,002	79,416	55,024	124,280	104,092
11	HARVARD UNIVERSITY	114,941E	87,051	320E	4,550E	7,274E	15,746E
12	UNIV OF PENNSYLVANIA	112,836	81,014	917	2,592	10,276	18,037
13	UNIV OF CAL LOS ANGELES	103,294	78,222	1,155	0	10,939	12,978
14	UNIV OF CAL BERKELEY	102,369	67,208	3,206	0	25,120	6,835
15	UNIV OF ILL URBANA	95,869	57,247	5,569	1,598	27,482	3,973
16	UNIV OF CAL SAN FRANCISCO	95,282	75,536	1,077	0	7,652	11,017
17	UNIV OF TEXAS AT AUSTIN	92,069	52,606	5,412	1,624	22,772	9,655
18	TEXAS A & M UNIVERSITY	91,780	37,221	39,290	4,933	2,691	7,645
19	YALE UNIVERSITY	91,232	76,217	2,363	905	10,487	1,260
20	UNIV OF CAL DAVIS	89,784	42,535	4,353	0	35,961	6,935
	TOTAL, 1ST 20 INSTS.	2,577,270	1,879,859	143,078	71,226	284,934	198,173
21	UNIVERSITY OF ARIZONA	88,247	44,113	17,577	8,554	13,061	4,942
22	UNIV OF SOUTHERN CAL	87,140	55,101	3,232	5,223	20,005	3,579
23	OHIO STATE UNIVERSITY	82,614	45,990	13,803	4,260	7,321	11,240
24	PENNSYLVANIA STATE UNIV	82,034	53,023	1,703	10,581	16,604	123
25	MICHIGAN STATE UNIVERSITY	71,922	38,320	13,439	2,200	15,568	2,395
26	GEORGIA INSTITUTE OF TECH	71,402	38,632	1,767	11,359	19,644	0
27	UNIVERSITY OF CHICAGO	69,018	57,600	27	950	5,896	4,545
28	UNIVERSITY OF FLORIDA	68,370	33,178	2,810	3,650	23,649	5,083
29	WASHINGTON UNIVERSITY	68,049	55,608	526	2,388	4,050	5,477
30	PURDUE UNIVERSITY	67,299	41,949	8,868	7,405	6,975	2,102
	TOTAL, 1ST 30 INSTS.	3,333,365	2,343,373	206,830	127,796	417,707	237,659
31	LOUISIANA STATE UNIV	66,814	18,220	27,590	1,720	15,911	3,373
32	UNIVERSITY OF COLORADO	66,377E	53,985E	53	2,860E	3,251E	6,228E
33	NEW YORK UNIVERSITY	66,139	48,503	354	2,952	6,304	8,026
34	UNIVERSITY OF ROCHESTER	65,547	50,233	1,541	4,561	4,288	4,924
35	UNIVERSITY OF GEORGIA	65,161	21,703	738	3,059	39,149	512
36	OREGON STATE UNIVERSITY	56,769	32,308	14,386	2,782	1,881	5,412
37	N C STATE UNIV AT RALEIGH	55,781	21,217	25,695I	2,712I	4,914I	1,243I
38	UNIVERSITY OF IOWA	55,406	38,271	317	1,600	12,927	2,291E
39	IOWA ST U OF SCI & TECH	55,294	18,659	15,498	2,106	16,729	2,302
40	UNIVERSITY OF CONNECTICUT	55,109	33,229	1,679	1,570	9,940	8,691
	TOTAL, 1ST 40 INSTS.	3,941,762	2,679,701	294,681	153,718	533,001	280,661
41	YESHIVA UNIVERSITY	52,235	44,759	0	0	3,914	3,562E
42	UNIVERSITY OF MIAMI	51,899	34,090	461	4,605	10,922	1,821
43	DUKE UNIVERSITY	49,655E	47,238E	382I	510I	631I	894I
44	BAYLOR COL OF MEDICINE	48,661	35,852	88	3,054	4,132E	5,535
45	UNIV OF NC AT CHAPEL HILL	47,711	39,235	3,191	815	2,471	1,999
46	COLORADO STATE UNIVERSITY	46,641	29,961	8,094	5,130	2,907	549
47	UNIVERSITY OF PITTSBURGH	46,548	34,772	341	1,445	5,587	4,403
48	ROCKEFELLER UNIVERSITY	46,172	21,213	123	1,740	16,556	6,540
49	NORTHWESTERN UNIVERSITY	45,810	32,728	115	895	6,936	5,136
50	UNIV OF NEBRASKA-LINCOLN	44,172	13,890	1,405	1,037	26,109	1,731
	TOTAL, 1ST 50 INSTS.	4,421,266	3,013,439	308,881	172,949	623,166	312,831

SEE FOOTNOTES AT END OF TABLE.

TABLE B-30. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 CALIFORNIA INST OF TECH	44,048	39,382	365	2,025	532	1,744
52 UNIVERSITY OF UTAH	43,765	35,019	3,472	1,432	1,694	2,148
53 UNIV OF HAWAII-MANOA	43,439	26,616	14,376	260	1,445	742
54 CASE WESTERN RESERVE UNIV	43,129	34,047	438	1,896	2,863	3,885
55 RUTGERS THE ST UNIV OF NJ	42,938	18,643	7,640	1,264	14,009	1,382
56 INDIANA UNIVERSITY	42,558	28,663	747	1,463	8,886	2,799
57 UNIV OF MISSOURI COLUMBIA	40,978	15,604	9,049	983	12,606	2,736
58 U TEXAS SYSTEM CANCER CTR	40,369	17,560	0	0	18,139	4,670
59 VA POLYTECH INST & ST U	39,909	17,967	12,417	6,515	3,010	0
60 OKLAHOMA STATE UNIVERSITY	39,472	10,991	2,117	2,100	24,264	0
TOTAL, 1ST 60 INSTS.	4,841,871	3,257,931	359,502	190,887	700,614	332,937
61 UNIVERSITY OF KENTUCKY	38,907	15,010	9,140	3,337	11,420	0
62 UNIV OF ALASKA FAIRBANKS	38,218	19,055	3,242	2,882	12,492	547
63 CARNEGIE-MELLON UNIV	37,316	27,178	578	4,844	522	1,194
64 PRINCETON UNIVERSITY	36,641	26,542	85	693	6,837	2,484E
65 MISSISSIPPI STATE UNIV	36,582	9,560	14,444	1,536	9,590	1,452
66 SUNY AT STONY BROOK	36,468	24,904	1,250	511	5,524	4,279
67 UNIV ALABAMA BIRMINGHAM	35,792	30,234	[illegible]	1,509	1,149	2,896
68 UNIV OF CAL RIVERSIDE	35,539	11,217	2,703	0	19,867	1,752
69 KANS ST U - AG & APP SCI	34,806	10,928	14,654	1,147	5,841	2,236
70 NEW MEXICO STATE UNIV	34,650	26,066	3,646	0	260	4,678
TOTAL, 1ST 70 INSTS.	5,206,790	3,458,625	409,248	207,346	774,116	357,455
71 WASHINGTON STATE UNIV	34,257	12,961	18,431	2,865	0	0
72 UNIV OF MD COLLEGE PARK	34,251	27,521	3,209E	1,006E	2,515E	0
73 UTAH STATE UNIVERSITY	33,822	19,123	6,645	703	5,371	1,980
74 WOODS HOLE OCNGRPHIC INST	33,725	29,002	68	692	953	3,010
75 UNIVERSITY OF VIRGINIA	33,661	26,892	733	1,877	1,578	2,581
76 U TEX HLTH SCI CTR DALLAS	32,058	25,121	3	1,915	35	4,984
77 UNIV OF CAL IRVINE	31,456	26,234	695	0	1,882	2,645
78 UNIVERSITY OF NEW MEXICO	30,977	21,968	3,038	2,645	2,234	1,092
79 BOSTON UNIVERSITY	30,603	27,374	803	965	46	1,415
80 CUNY MT SINAI SCH OF MED	29,797	21,496	113	849	2,998	4,341
TOTAL, 1ST 80 INSTS.	5,531,397	3,696,317	442,986	220,863	791,728	379,503
81 UNIVERSITY OF OKLAHOMA	29,785	13,523	564	1,642	13,452	604
82 UNIV OF MASS AT AMHERST	28,887	16,053	3,440	1,601	6,888	905
83 UNIVERSITY OF CINCINNATI	28,573	20,060	108	1,133	3,435	3,837
84 SUNY AT BUFFALO	27,800	18,375	654	0	6,735	2,036
85 UNIV OF ARK FAYETTEVILLE	26,653	6,827	8,195	1,402	9,084	1,145
86 VANDERBILT UNIVERSITY	24,993	19,649	519	2,146	1,153	1,526
87 CLEMSON UNIVERSITY	23,552	9,196	481	2,319	11,556	0
88 GEORGE WASHINGTON UNIV	23,334	19,140	97	44	2,906	1,147
89 AUBURN UNIVERSITY	23,256	7,473	9,274	1,560	4,629	320
90 UNIV OF RHODE ISLAND	23,000E	18,400E	4,600I	0	0	0
TOTAL, 1ST 90 INSTS.	5,791,230	3,845,013	470,918	232,710	851,566	391,023
91 FLORIDA STATE UNIVERSITY	22,877	10,385	296	140	11,180	876
92 VIRGINIA COMMONWLTH UNIV	22,385	18,852	184	299	1,514	1,536
93 WAYNE STATE UNIVERSITY	21,542	12,903	387	1,678	4,099	2,475
94 TEMPLE UNIVERSITY	21,503	15,541	196	379	2,052	3,335
95 EMORY UNIVERSITY	21,423	18,015	345	1,271	278	1,514
96 BROWN UNIVERSITY	21,331	18,345	100	2,236	450	200
97 WEST VIRGINIA UNIVERSITY	21,080	10,476	8,071	704	117	1,712
98 UNIVERSITY OF KANSAS	20,534	13,422	4,453I	0	2,230I	429I
99 RENSSELAER POLYTECH INST	20,302	11,766	240	2,848	4,530	918
100 SYRACUSE UNIVERSITY	19,442	9,823	722	1,481	7,130	286
TOTAL, 1ST 100 INSTS.	6,003,649	3,984,541	485,912	243,746	885,146	404,304

SEE FOOTNOTES AT END OF TABLE.

TABLE B-30. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
101 U TEX HLTH SCI CTR S ANTO	19,341	13,319	92	1,495	2,521	1,914
102 TULANE UNIVERSITY	19,271	10,678	241	2,516	4,652	1,184
103 GEORGETOWN UNIVERSITY	18,888	12,004	92	1,570	2,593	2,629
104 UNIVERSITY OF DAYTON	18,612	16,226	110	1,793	441	42E
105 UNIV OF MAINE ORONO	18,599	8,149	3,057	1,088	5,564	741
106 UNIV OF VT & ST AGRIC COL	18,575	12,889	1,473	1,369	2,009	835
107 U TEX HLTH SCI CTR HOUSTN	18,281	14,620	340	848	707	1,766
108 U TEX MED BRNCH GALVESTON	18,272	10,632	1,123	647	4,062	1,808
109 NORTH DAKOTA STATE UNIV	18,101	4,428	12,000	535	1,127	11
110 UNIVERSITY OF DELAWARE	17,575	9,540	655	1,102	5,450	1,128E
TOTAL, 1ST 110 INSTS.	6,189,464	4,097,026	505,095	256,709	914,272	416,362
111 UNIV OF ILL MED CTR CHGO	17,485I	12,814I	1,079I	451I	801I	2,340I
112 UNIVERSITY OF DENVER	17,333	12,505	395	1,995	2,438	0
113 UNIVERSITY OF IDAHO	17,272	12,127	1,751	1,622	1,116	656
114 THE OREG HLTH SCI UNIV	16,954	9,219	66	1,624	5,262	783
115 COL OF MED & DENT OF N J	16,123	11,115	0	0	1,752	3,256
116 MONTANA STATE UNIVERSITY	15,333	6,916	5,154	860	2,403	0
117 UNIVERSITY OF WYOMING	14,622	7,319	304	1,312	5,666	21
118 UNIV OF P R-MAYAGUEZ	14,611I	5,624I	6,151I	0	2,836I	0
119 INST OF AGRI UNIV OF TENN	14,545	5,155	4,932	786	3,672E	0
120 DARTMOUTH COLLEGE	14,525	12,010	294	141	532	1,548
TOTAL, 1ST 120 INSTS.	6,348,267	4,191,830	525,221	265,500	940,750	424,966
121 SUNY UPSTATE MEDICAL CTR	14,476	5,232	74	360	0	8,810
122 U OF HOUSTON CENTRAL CAM	13,732	6,659	424	1,472	3,175	2,202
123 LEHIGH UNIVERSITY	13,679	6,447	327	1,294	5,439	172
124 BRANDEIS UNIVERSITY	13,654	10,487	32	0	0	3,135
125 UNIV OF MD BALT PROF SCH	13,553I	12,224I	0	91I	0	1,238I
126 TEXAS TECH UNIVERSITY	13,261	5,345	4,805	1,953	454	704E
127 UNIV OF SOUTH CAROLINA	13,249	7,561	120	565	4,439	564
128 TUFTS UNIVERSITY	13,177I	10,93[illegible]	0	292I	19I	1,929I
129 UNIV OF NEW HAMPSHIRE	13,162	7,55[illegible]	1,299	332	2,961	1,012
130 UNIV OF CAL SANTA BARBARA	13,102	10,633	298	0	1,287	884
TOTAL, 1ST 130 INSTS.	6,483,512	4,274,913	532,600	271,859	958,524	445,616
131 U TENNESSEE KNOXVILLE	12,822	10,309	503	736	1,274	0
132 MEDICAL COLLEGE OF WIS	12,741I	7,741I	0	744I	2,487I	1,769I
133 UNIV OF ILL CHICAGO CIR	12,662	7,670	458	237	3,965	332
134 SUNY DOWNSTATE MED CTR	12,510	8,467	435	332	656	2,620
135 UNIVERSITY OF NOTRE DAME	12,472	11,083	22	1,076	291	0
136 ST JOHN'S UNIVERSITY (NY)	11,750	170	22	30	11,528E	0
137 ARIZONA STATE UNIVERSITY	11,511	7,840	499	750	2,005	417
138 UNIV OF NEVADA - RENO	11,441	5,187	100	386	5,000	768
139 TENNESSEE STATE UNIV	11,372	6,830	1,692I	456I	1,506I	888I
140 HOWARD UNIVERSITY	11,244	9,178	0	33	1,316	717
TOTAL, 1ST 140 INSTS.	6,604,037	4,349,388	536,331	276,639	988,552	453,127
141 ALBANY MEDICAL COLLEGE	11,197	7,251	1,082	509	0	2,355E
142 UNIV OF CAL SANTA CRUZ	11,094	7,240	202	0	3,065	587
143 RUSH UNIVERSITY	10,864	7,108	38	540	1,041	2,137
144 UNIVERSITY OF OREGON MAIN	10,504	8,263	100	0	1,907	234
145 UNIVERSITY OF MISSISSIPPI	9,912E	5,514E	118E	466	2,914E	900E
146 U MASS MED SCHL WORCESTER	9,886	6,731	149	360	1,911	735
147 RICE UNIVERSITY	9,861E	7,560E	0	557E	0	1,744
148 MED UNIV OF SO CAROLINA	9,655	7,420	310	465	620	840
149 SOUTHERN ILL U-CARBONDALE	9,387	3,943	2,754	0	0	2,690
150 THOMAS JEFFERSON UNIV	9,345	6,982	0	2,363	0	0
TOTAL, 1ST 150 INSTS.	6,705,742	4,417,400	541,084	281,899	1,000,010	465,349

SEE FOOTNOTES AT END OF TABLE.

TABLE B-30. — R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

	INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
151	SUNY AT ALBANY	8,800	6,700	147	38	1,439	476
152	MICHIGAN TECH UNIVERSITY	8,772	3,431	1,743	1,673	1,905	20
153	UNIV TENN CTR HEALTH SCI	8,749	6,995	323	584	0	847
154	SOUTH DAKOTA STATE UNIV	8,722	2,243	315I	[illegible]	5,147I	326I
155	UNIVERSITY OF N DAKOTA	8,332	5,476	460	795	1,408	193
156	US NAVAL POSTGRAD SCHOOL	7,956	7,853	0	0	0	103
157	N MEX INST MINING & TECH	7,749	4,814	744	784	1,315	92
158	UNIV OF WIS-MILWAUKEE	7,586	3,192	3,118	196	722	358
159	UNIV OF MISSOURI ROLLA	7,471	3,241	93	843	3,051	243
160	U OF CAL SYS WIDE PRGMS	7,388	566	523	0	6,177	122
	TOTAL, 1ST 160 INSTS.	6,787,267	4,461,911	548,550	287,503	1,021,174	468,129
161	UNIVERSITY OF LOUISVILLE	7,294	3,949	530	222	2,132	461
162	MEDICAL COL OF GEORGIA	7,140	6,304	168	321	140	207
163	NORTHEASTERN UNIVERSITY	6,889	5,356	94	523	894	22
164	WAKE FOREST UNIVERSITY	6,742I	5,366I	54I	123I	142I	1,057I
165	HAHNEMANN MED COL & HOSP	6,659	5,641	62	174	347	435
166	UNIV OF SOUTH FLORIDA	6,600	3,965	807	8	1,015	805
167	WRIGHT STATE UNIVERSITY	6,521	4,025	95	745	1,139	517
168	U OF NEB MED CTR AT OMAHA	6,483	3,810	24	368	1,729	552
169	ST LOUIS UNIVERSITY	6,479I	4,835I	43I	0	767I	834I
170	SUNY COL OF ENV SCI & FOR	6,290I	1,805I	35I	647I	3,399I	404I
	TOTAL, 1ST 170 INSTS.	6,854,364	4,506,967	550,462	290,634	1,032,878	473,423
171	UNIV OF TEXAS AT DALLAS	6,221	4,338	4	221	1,237	421
172	BOSTON COLLEGE	6,151	5,989	1-	47	0	101
173	SAN DIEGO STATE UNIV	6,041	4,494	933	154	460	0
174	NEW YORK MEDICAL COLLEGE	6,026	4,995	0	0	274	757
175	COLORADO SCHOOL OF MINES	5,897	4,907	90	900	0	0
176	THE MEDICAL COL OF PENNA	5,867	3,470	0	1,644E	753E	0
177	INSTITUTE PAPER CHEMISTRY	5,856	1,219	11	499	3,440	687
178	NORTH TEXAS STATE UNIV	5,811	3,669	982I	465I	0	895I
179	DESERT RESEARCH INSTITUTE	5,798	2,821	147	2,196	634	0
180	MED COL OF OHIO AT TOLEDO	5,698I	4,083I	0	0	0	1,615I
	TOTAL, 1ST 180 INSTS.	6,913,730	4,546,952	552,643	296,760	1,039,676	477,699
181	U OF ARKANSAS MED SCI CAM	5,696	3,932	0	318	727	719
182	SUNY AT BINGHAMTON	5,636	4,001	141	367	978	149
183	SAN JOSE STATE UNIVERSITY	5,586	3,964	510I	772I	328I	12I
184	UNIV OF WEST FLORIDA	5,552	1,651	1,509	23	2,364	5
185	UNIV OF CENTRAL FLORIDA	5,441	1,768	1,112	152	2,211	198
186	OHIO UNIVERSITY	5,400	2,140	664	138	2,239	219
187	ILLINOIS INST OF TECH	5,202	4,347	164	308	0	383
188	DREXEL UNIVERSITY	5,192	3,636	394	542	620	0
189	POLYTECHNIC INST OF N Y	5,184	3,979	292	0	0	913
190	WESLEYAN UNIVERSITY	5,179I	3,766I	0	0	0	1,413I
	TOTAL, 1ST 190 INSTS.	6,967,798	4,580,136	557,429	299,380	1,049,143	481,716
191	STEVENS INSTITUTE OF TECH	4,691	2,911	119	1,290	260	111
192	CUNY CITY COLLEGE	4,665	4,414	0	247	4	0
193	UNIF SERV UNIV OF HLTH SC	4,645	4,645	0	0	0	0
194	LOYOLA UNIV - CHICAGO	4,455	2,652	0	348	548	907
195	BRIGHAM YOUNG UNIVERSITY	4,375	1,892	93	1,328	675	387
196	PRAIRIE VIEW A & M UNIV	4,079	3,780	186I	0	0	113I
197	FLORIDA A & M UNIVERSITY	4,074	1,245	1,621	273	935	0
198	NORTHERN ILLINOIS UNIV	4,039	1,241	658	210	1,930	0
199	UNIV OF P R-MED SCI CMPUS	4,015I	3,844I	50I	18I	76I	27I
200	WORCESTER POLY INSTITUTE	4,006	1,612	4	2,234	156	0
	TOTAL, 1ST 200 INSTS.	7,010,842	4,608,366	560,160	305,328	1,053,727	483,261
	TOTAL, ALL OTHER INSTS.	249,795	140,898	25,399	20,266	43,875	19,357

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-31. -- R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	4,614,956	2,716,358	536,526	199,287	859,533	303,252
1 UNIV OF WIS-MADISON	157,520	101,019	29,612	3,446	14,610	8,833
2 UNIVERSITY OF MINNESOTA	146,466	83,044	15,398	4,720	32,749	10,555
3 UNIV OF CAL SAN DIEGO	138,894	116,200	1,327	0	10,372	10,995
4 UNIVERSITY OF WASHINGTON	133,115	109,058	5,312	5,140	1,180	12,425
5 UNIVERSITY OF MICHIGAN	119,973	74,656	1,010	7,408	27,047	9,852
6 UNIV OF CAL LOS ANGELES	103,294	78,222	1,155	0	10,939	12,978
7 UNIV OF CAL BERKELEY	102,369	67,208	3,206	0	25,120	6,835
8 UNIV OF ILL URBANA	95,869	57,247	5,569	1,598	27,482	3,973
9 UNIV OF CAL SAN FRANCISCO	95,282	75,536	1,077	0	7,652	11,017
10 UNIV OF TEXAS AT AUSTIN	92,069	52,606	5,412	1,624	22,772	9,655
TOTAL, 1ST 10 INSTS.	1,184,851	814,796	69,078	23,936	179,923	97,118
11 TEXAS A & M UNIVERSITY	91,780	37,221	39,290	4,933	2,691	7,645
12 UNIV OF CAL DAVIS	89,784	42,535	4,353	0	35,961	6,935
13 UNIVERSITY OF ARIZONA	88,247	44,113	17,577	8,554	13,061	4,942
14 OHIO STATE UNIVERSITY	82,614	45,990	13,803	4,260	7,321	11,240
15 PENNSYLVANIA STATE UNIV	82,034	53,023	1,703	10,581	16,604	123
16 MICHIGAN STATE UNIVERSITY	71,922	38,320	13,439	2,200	15,568	2,395
17 GEORGIA INSTITUTE OF TECH	71,402	38,632	1,767	11,359	19,644	0
18 UNIVERSITY OF FLORIDA	68,370	35,178	2,810	3,650	23,649	5,083
19 PURDUE UNIVERSITY	67,299	41,949	8,868	7,405	6,975	2,102
20 LOUISIANA STATE UNIV	66,814	18,220	27,590	1,720	15,911	3,373
TOTAL, 1ST 20 INSTS.	1,965,117	1,207,977	200,278	78,598	337,308	140,956
21 UNIVERSITY OF COLORADO	66,377E	53,985E	53	2,860E	3,251E	6,228E
22 UNIVERSITY OF GEORGIA	65,161	21,703	738	3,059	39,149	512
23 OREGON STATE UNIVERSITY	56,769	32,308	14,386	2,782	1,881	5,412
24 N C STATE UNIV AT RALEIGH	55,781	21,217	25,695I	2,712I	4,914I	1,243I
25 UNIVERSITY OF IOWA	55,406	38,271	317	1,600	12,927	2,291E
26 IOWA ST U OF SCI & TECH	55,294	18,659	15,498	2,106	16,729	2,302
27 UNIVERSITY OF CONNECTICUT	55,109	33,229	1,679	1,570	9,940	8,691
28 UNIV OF NC AT CHAPEL HILL	47,711	39,235	3,191	815	2,471	1,999
29 COLORADO STATE UNIVERSITY	46,641	29,961	8,094	5,130	2,907	549
30 UNIVERSITY OF PITTSBURGH	46,548	34,772	341	1,445	5,587	4,403
TOTAL, 1ST 30 INSTS.	2,515,914	1,531,317	270,270	102,677	437,064	174,586
31 UNIV OF NEBRASKA-LINCOLN	44,172	13,890	1,405	1,037	26,109	1,731
32 UNIVERSITY OF UTAH	43,765	35,019	3,472	1,432	1,694	2,148
33 UNIV OF HAWAII-MANOA	43,439	26,616	14,376	260	1,445	742
34 RUTGERS THE ST UNIV OF NJ	42,938	18,643	7,640	1,264	14,009	1,382
35 INDIANA UNIVERSITY	42,558	28,663	747	1,463	8,886	2,799
36 UNIV OF MISSOURI COLUMBIA	40,978	15,604	9,049	983	12,606	2,736
37 U TEXAS SYSTEM CANCER CTR	40,369	17,560	0	0	18,139	4,670
38 VA POLYTECH INST & ST U	39,909	17,967	12,417	6,515	3,010	0
39 OKLAHOMA STATE UNIVERSITY	39,472	10,991	2,117	2,100	24,264	0
40 UNIVERSITY OF KENTUCKY	38,907	15,010	9,140	3,337	11,420	0
TOTAL, 1ST 40 INSTS.	2,932,421	1,731,280	330,633	121,068	558,646	190,794
41 UNIV OF ALASKA FAIRBANKS	38,218	19,055	3,242	2,882	12,492	547
42 MISSISSIPPI STATE UNIV	36,582	9,560	14,444	1,536	9,590	1,452
43 SUNY AT STONY BROOK	36,468	24,904	1,250	511	5,524	4,279
44 UNIV ALABAMA BIRMINGHAM	35,792	30,234	4	1,509	1,149	2,896
45 UNIV OF CAL RIVERSIDE	35,539	11,217	2,703	0	19,867	1,752
46 KANS ST U - AG & APP SCI	34,806	10,928	14,654	1,147	5,841	2,236
47 NEW MEXICO STATE UNIV	34,650	26,066	3,646	0	260	4,678
48 WASHINGTON STATE UNIV	34,257	12,961	18,431	2,865	0	0
49 UNIV OF MD COLLEGE PARK	34,251	27,521	3,209E	1,006E	2,515E	0
50 UTAH STATE UNIVERSITY	33,822	19,123	6,645	703	5,371	1,980
TOTAL, 1ST 50 INSTS.	3,286,806	1,922,849	398,861	133,227	621,255	210,614

SEE FOOTNOTES AT END OF TABLE.

TABLE B-31. -- R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982 - CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 UNIVERSITY OF VIRGINIA	33,661	26,892	733	1,877	1,578	2,581
52 U TEX HLTH SCI CTR DALLAS	32,058	25,121	3	1,915	35	4,984
53 UNIV OF CAL IRVINE	31,456	26,234	695	0	1,882	2,645
54 UNIVERSITY OF NEW MEXICO	30,977	21,968	3,038	2,645	2,234	1,092
55 UNIVERSITY OF OKLAHOMA	29,785	13,523	564	1,642	13,452	604
56 UNIV OF MASS AT AMHERST	28,887	16,053	3,440	1,601	6,888	905
57 UNIVERSITY OF CINCINNATI	28,573	20,060	108	1,133	3,435	3,837
58 SUNY AT BUFFALO	27,800	18,375	654	0	6,735	2,036
59 UNIV OF ARK FAYETTEVILLE	26,653	6,827	8,195	1,402	9,084	1,145
60 CLEMSON UNIVERSITY	23,552	9,196	481	2,319	11,556	0
TOTAL, 1ST 60 INSTS.	3,580,208	2,107,098	416,772	147,761	678,134	230,443
61 AUBURN UNIVERSITY	23,256	7,473	9,274	1,560	4,629	320
62 UNIV OF RHODE ISLAND	23,000E	18,400E	4,600I	0	0	0
63 FLORIDA STATE UNIVERSITY	22,877	10,385	296	140	11,180	876
64 VIRGINIA COMMONWLTH UNIV	22,385	18,852	184	299	1,514	1,536
65 WAYNE STATE UNIVERSITY	21,542	12,903	387	1,678	4,099	2,475
66 TEMPLE UNIVERSITY	21,503	15,541	196	379	2,052	3,335
67 WEST VIRGINIA UNIVERSITY	21,080	10,476	8,071	704	117	1,712
68 UNIVERSITY OF KANSAS	20,534	13,422	4,453I	0	2,230I	429I
69 U TEX HLTH SCI CTR S ANTO	19,341	13,319	92	1,495	2,521	1,914
70 UNIV OF MAINE ORONO	18,599	8,149	3,057	1,088	5,564	741
TOTAL, 1ST 70 INSTS.	3,794,325	2,236,018	447,382	155,104	712,040	243,781
71 UNIV OF VT & ST AGRIC COL	18,575	12,889	1,473	1,369	2,009	835
72 U TEX HLTH SCI CTR HOUSTN	18,281	14,620	340	848	707	1,766
73 U TEX MED BRNCH GALVESTON	18,272	10,632	1,123	647	4,062	1,808
74 NORTH DAKOTA STATE UNIV	18,101	4,428	12,000	535	1,127	11
75 UNIVERSITY OF DELAWARE	17,875	9,540	655	1,102	5,450	1,128E
76 UNIV OF ILL MED CTR CHGO	17,485I	12,814I	1,079I	451I	801I	2,340I
77 UNIVERSITY OF IDAHO	17,272	12,127	1,751	1,622	1,116	656
78 THE OREG HLTH SCI UNIV	16,954	9,219	66	1,624	5,262	783
79 COL OF MED & DENT OF N J	16,123	11,115	0	0	1,752	3,256
80 MONTANA STATE UNIVERSITY	15,333	6,916	5,154	860	2,403	0
TOTAL, 1ST 80 INSTS.	3,968,596	2,340,318	471,023	164,162	736,729	256,364
81 UNIVERSITY OF WYOMING	14,622	7,319	304	1,312	5,666	21
82 UNIV OF P R-MAYAGUEZ	14,611I	5,624I	6,151I	0	2,836I	0
83 INST OF AGRI UNIV OF TENN	14,545	5,155	4,932	786	3,672E	0
84 SUNY UPSTATE MEDICAL CTR	14,476	5,232	74	360	0	8,810
85 U OF HOUSTON CENTRAL CAM	13,932	6,659	424	1,472	3,175	2,202
86 UNIV OF MD BALT PROF SCH	13,553I	12,224I	0	91I	0	1,238I
87 TEXAS TECH UNIVERSITY	13,261	5,345	4,805	1,953	454	704E
88 UNIV OF SOUTH CAROLINA	13,249	7,561	120	565	4,439	564
89 UNIV OF NEW HAMPSHIRE	13,162	7,558	1,299	332	2,961	1,012
90 UNIV OF CAL SANTA BARBARA	13,102	10,633	298	0	1,287	884
TOTAL, 1ST 90 INSTS.	4,107,109	2,413,628	489,430	171,033	761,219	271,799
91 U TENNESSEE KNOXVILLE	12,822	10,309	503	736	1,274	0
92 UNIV OF ILL CHICAGO CIR	12,662	7,670	458	237	3,965	332
93 SUNY DOWNSTATE MED CTR	12,510	8,467	435	332	656	2,620
94 ARIZONA STATE UNIVERSITY	11,511	7,840	499	750	2,005	417
95 UNIV OF NEVADA - RENO	11,441	5,187	100	386	5,000	768
96 TENNESSEE STATE UNIV	11,372	6,830	1,692I	456I	1,506I	888I
97 UNIV OF CAL SANTA CRUZ	11,094	7,240	202	0	3,065	587
98 UNIVERSITY OF OREGON MAIN	10,504	8,263	100	0	1,907	234
99 UNIVERSITY OF MISSISSIPPI	9,912E	5,514E	118E	466	2,914E	900E
100 U MASS MED SCHL WORCESTER	9,886	6,731	149	360	1,911	735
TOTAL, 1ST 100 INSTS.	4,220,823	2,487,679	493,686	174,756	785,422	279,280
TOTAL, ALL OTHER INSTS.	394,133	228,679	42,840	24,531	74,111	23,972

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SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-32. -- R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
TOTAL, ALL INSTITUTIONS	2,645,681	2,032,906	49,033	126,307	238,069	199,366
1 JOHNS HOPKINS UNIVERSITY	289,940	271,223	2,592	192	4,947	10,986
2 MASS INST OF TECHNOLOGY	192,462	157,191	801	17,195	923	16,352
3 STANFORD UNIVERSITY	147,941	120,099	507	8,969	15,052	3,314
4 CORNELL UNIVERSITY	145,769	90,538	22,678	7,495	14,933	10,125
5 COLUMBIA UNIV MAIN DIV	115,734	101,974	179	459	2,467	10,655
6 HARVARD UNIVERSITY	114,941E	87,051	320E	4,550E	7,274E	15,746E
7 UNIV OF PENNSYLVANIA	112,836	81,014	917	2,592	10,276	18,037
8 YALE UNIVERSITY	91,232	76,217	2,363	905	10,487	1,260
9 UNIV OF SOUTHERN CAL	87,140	55,101	3,232	5,223	20,005	3,579
10 UNIVERSITY OF CHICAGO	69,018	57,600	27	950	5,896	4,545
TOTAL, 1ST 10 INSTS.	1,367,013	1,098,008	33,616	48,530	92,260	94,599
11 WASHINGTON UNIVERSITY	68,049	55,608	526	2,388	4,050	5,477
12 NEW YORK UNIVERSITY	66,139	48,503	354	2,952	6,304	8,026
13 UNIVERSITY OF ROCHESTER	65,547	50,233	1,541	4,561	4,288	4,924
14 YESHIVA UNIVERSITY	52,235	44,759	0	0	3,914	3,562E
15 UNIVERSITY OF MIAMI	51,899	34,090	461	4,605	10,922	1,821
16 DUKE UNIVERSITY	49,655E	47,238E	382I	510I	631I	894I
17 BAYLOR COL OF MEDICINE	48,661	35,852	88	3,054	4,132E	5,535
18 ROCKEFELLER UNIVERSITY	46,172	21,213	123	1,740	16,556	6,540
19 NORTHWESTERN UNIVERSITY	45,810	32,728	115	895	6,936	5,136
20 CALIFORNIA INST OF TECH	44,048	39,382	365	2,025	532	1,744
TOTAL, 1ST 20 INSTS.	1,905,228	1,507,614	37,571	71,260	150,525	138,258
21 CASE WESTERN RESERVE UNIV	43,129	34,047	438	1,896	2,863	3,885
22 CARNEGIE-MELLON UNIV	37,316	27,178	578	4,844	522	4,194
23 PRINCETON UNIVERSITY	36,641	26,542	85	693	6,837	2,484E
24 WOODS HOLE OCNGRPHIC INST	33,725	29,002	68	692	953	3,010
25 BOSTON UNIVERSITY	30,603	27,374	803	965	46	1,415
26 CUNY MT SINAI SCH OF MED	29,797	21,496	113	849	2,998	4,341
27 VANDERBILT UNIVERSITY	24,993	19,649	519	2,146	1,153	1,526
28 GEORGE WASHINGTON UNIV	23,334	19,140	97	44	2,906	1,147
29 EMORY UNIVERSITY	21,423	18,015	345	1,271	278	1,514
30 BROWN UNIVERSITY	21,331	18,345	100	2,236	450	200
TOTAL, 1ST 30 INSTS.	2,207,520	1,748,402	40,717	86,896	169,531	161,974
31 RENSSELAER POLYTECH INST	20,302	11,766	240	2,848	4,530	918
32 SYRACUSE UNIVERSITY	19,442	9,823	722	1,481	7,130	286
33 TULANE UNIVERSITY	19,271	10,678	241	2,516	4,652	1,184
34 GEORGETOWN UNIVERSITY	18,888	12,004	92	1,570	2,593	2,629
35 UNIVERSITY OF DAYTON	18,612	16,226	110	1,793	441	42E
36 UNIVERSITY OF DENVER	17,333	12,505	395	1,995	2,438	0
37 DARTMOUTH COLLEGE	14,525	12,010	294	141	532	1,548
38 LEHIGH UNIVERSITY	13,679	6,447	327	1,294	5,439	172
39 BRANDEIS UNIVERSITY	13,654	10,487	32	0	0	3,135
40 TUFTS UNIVERSITY	13,177I	10,937I	0	292I	19I	1,929I
TOTAL, 1ST 40 INSTS.	2,376,403	1,861,285	43,170	100,825	197,305	173,817
41 MEDICAL COLLEGE OF WIS	12,741I	7,741I	0	744I	2,487I	1,769I
42 UNIVERSITY OF NOTRE DAME	12,472	11,083	22	1,076	291	0
43 ST JOHN'S UNIVERSITY (NY)	11,750	170	22	30	11,528E	0
44 HOWARD UNIVERSITY	11,244	9,178	0	33	1,316	717
45 ALBANY MEDICAL COLLEGE	11,197	7,251	1,082	509	0	2,355E
46 RUSH UNIVERSITY	10,864	7,108	38	540	1,041	2,137
47 RICE UNIVERSITY	9,861E	7,560E	0	557E	0	1,744
48 THOMAS JEFFERSON UNIV	9,345	6,982	0	2,363	0	0
49 NORTHEASTERN UNIVERSITY	6,889	5,356	94	523	894	22
50 WAKE FOREST UNIVERSITY	6,742I	5,366I	54I	123I	142I	1,057I
TOTAL, 1ST 50 INSTS.	2,479,508	1,929,080	44,482	107,324	215,004	183,618

SEE FOOTNOTES AT END OF TABLE.

TABLE B-32. -- R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SOURCE OF FUNDS: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	FEDERAL GOVT.	STATE & LOCAL GOVTS.	INDUSTRY	INSTITUTIONAL FUNDS	OTHER
51 HAHNEMANN MED COL & HOSP	6,659	5,641	62	174	347	435
52 ST LOUIS UNIVERSITY	6,479I	4,835I	43I	0	767I	834I
53 BOSTON COLLEGE	6,151	5,989	14	47	0	101
54 NEW YORK MEDICAL COLLEGE	6,026	4,995	0	0	274	757
55 THE MEDICAL COL OF PENNA	5,867	3,470	0	1,644E	753E	0
56 INSTITUTE PAPER CHEMISTRY	5,856	1,219	11	499	3,440	687
57 ILLINOIS INST OF TECH	5,202	4,347	164	308	0	383
58 DREXEL UNIVERSITY	5,192	3,636	394	542	620	0
59 POLYTECHNIC INST OF N Y	5,184	3,979	292	0	0	913
60 MESROPIAN UNIVERSITY	5,179I	3,760I	0	0	0	1,419I
TOTAL, 1ST 60 INSTS.	2,537,303	1,970,951	45,462	110,538	221,205	189,147
61 STEVENS INSTITUTE OF TECH	4,691	2,911	119	1,290	260	111
62 LOYOLA UNIV - CHICAGO	4,155	2,652	0	348	548	907
63 BRIGHAM YOUNG UNIVERSITY	4,375	1,892	93	1,328	675	387
64 WORCESTER POLY INSTITUTE	4,006	1,612	4	2,234	156	0
65 TEXAS COL OF OSTEO MED	3,410	1,850	10	60	1,280E	210
66 CATHOLIC UNIV OF AMERICA	3,360	2,448	0	660	207	45
67 SOUTHERN METHODIST UNIV	3,266	2,223	163	72	592	216
68 CLARKSON COLLEGE OF TECH	3,228	2,428	45	502	253	0
69 OREGON GRADUATE CENTER	3,048I	1,916I	90I	1,042I	0	0
70 U HLTH SCI/CHCGO MED SCH	2,847	1,231	13	7	1,350	246
TOTAL, 1ST 70 INSTS.	2,573,989	1,992,114	45,999	118,081	226,526	191,269
71 AMERICAN UNIVERSITY	2,812	1,799	184	145	0	684
72 LOMA LINDA UNIVERSITY	2,484E	1,866E	36E	16E	16E	550E
73 NEW YORK INST TECHNOLOGY	2,474I	109I	0	674I	1,691I	0
74 CLARK UNIVERSITY	2,439	1,911	28	0	297E	203
75 MEHARRY MEDICAL COLLEGE	2,247	1,922	236	0	0	89
76 CATHOLIC UNIV OF P R	2,066	335	0	0	1,731	0
77 CREIGHTON UNIVERSITY	2,044	971	1	650	422	0
78 GALLAUDET COLLEGE	2,013	1,893	120	0	0	0
79 WELLESLEY COLLEGE	1,905	957	0	0	0	948
80 FAIRLEIGH DICKINSON UNIV	1,696	755	200	554	0	187
TOTAL, 1ST 80 INSTS.	2,596,169	2,004,632	46,804	120,120	230,683	193,930
81 UNIVERSITY OF SANTA CLARA	1,533	1,377	156I	0	0	0
82 UNIVERSITY OF TULSA	1,513	743	0	717	53	0
83 ATLANTA UNIVERSITY	1,450	1,174E	0	140E	106E	30E
84 MERCER UNIVERSITY	1,349	116	1,204	0	28	1
85 FLORIDA INST OF TECH	1,332	702	85	38	300	207
86 FORDHAM UNIVERSITY	1,302	1,112	3	18	0	169
87 HARVEY MUDD COLLEGE	1,286	573	0	690	23	0
88 WENTWORTH INST OF TECH	1,271	1,268	0	0	0	3
89 ROCHESTER INST TECHNOLOGY	1,266I	665I	0	9I	334I	258I
90 THE WRIGHT INSTITUTE	1,171	796	0	0	56	319
TOTAL, 1ST 90 INSTS.	2,609,642	2,013,158	48,252	121,732	231,583	194,917
91 ALFRED UNIVERSITY	1,141I	84I	0	422I	635I	0
92 MARQUETTE UNIVERSITY	1,121	894	0	125	102	0
93 INSTITUTE OF TEXTILE TECH	984I	0I	0	984I	0	0
94 TUSKEGEE INSTITUTE	973E	973E	0	0	0	0
95 POMONA COLLEGE	972I	897I	0	0	0	75I
96 OCCIDENTAL COLLEGE	965	107	0	730	128	0
97 SMITH COLLEGE	959	275	0	33	199	452
98 CLAREMONT GRADUATE SCHOOL	932	394	101	0	399	38
99 NE OHIO UNIVS MED SCHOOL	904	502	3	35	194	170E
100 MANHATTAN COLLEGE	898	792	0	0	91	15
TOTAL, 1ST 100 INSTS.	2,619,491	2,018,076	48,356	124,061	233,331	195,667
TOTAL, ALL OTHER INSTS.	26,190	14,830	677	2,246	4,738	3,699

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-33. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	7,260,637	1,024,514	822,844	560,144	244,466	3,969,808	131,856	354,035	152,970
1 JOHNS HOPKINS UNIVERSITY	289,940	76,465	53,912	29,299	46,253	73,814	1,083	4,285	4,829
2 MASS INST OF TECHNOLOGY	192,462	84,109	49,094	11,971	8,765	26,191	3,559	5,310	3,463
3 UNIV OF WIS-MADISON	157,520	15,888	14,490	13,765	5,884	85,721	6,421	11,981	3,370
4 STANFORD UNIVERSITY	147,941	45,083	23,133	3,237	10,213	60,363	2,544	3,368	0
5 UNIVERSITY OF MINNESOTA	146,466	12,782	9,090	2,602	1,767	110,734	3,377	4,592	1,522
6 CORNELL UNIVERSITY	145,769	22,583E	23,823E	4,082E	2,643E	83,262E	2,283E	6,912E	181E
7 UNIV OF CAL SAN DIEGO	138,894	987	17,835	11,289	1,907	53,998	1,986	892	0
8 UNIVERSITY OF WASHINGTON	133,115	7,759	8,087	15,255	1,983	80,166	2,078	2,615	15,167E
9 UNIVERSITY OF MICHIGAN	119,973	17,367	7,950	5,970	2,436	58,707	8,252	19,291	0
10 COLUMBIA UNIV MAIN DIV	115,734	6,350	11,636	22,318	841	68,249	518	5,822	0
TOTAL, 1ST 10 INSTS.	1,587,814	289,373	219,050	169,788	82,697	701,205	32,101	65,068	28,532
11 HARVARD UNIVERSITY	114,941E	1,703E	14,212E	6,624E	1,545E	81,515E	1,410E	5,442E	2,490E
12 UNIV OF PENNSYLVANIA	112,836	6,554	9,156	675	3,162	72,246	1,131	16,011	3,901
13 UNIV OF CAL LOS ANGELES	103,294	11,500	12,576	6,972	976	61,354	3,439	6,477	0
14 UNIV OF CAL BERKELEY	102,369	21,289	18,142	3,590	2,674	43,918	3,898	8,858	0
15 UNIV OF ILL URBANA	95,869	24,933	14,679	2,991	6,853	25,595	2,514	9,742	2,562
16 UNIV OF CAL SAN FRANCISCO	95,282	0	0	0	0	95,282	0	0	0
17 UNIV OF TEXAS AT AUSTIN	92,069	13,507	21,507	13,525	3,609	9,695	1,132	6,196	22,898
18 TEXAS A & M UNIVERSITY	91,780	22,770	6,385	6,895	1,245	53,222	18	1,245	0
19 YALE UNIVERSITY	91,232	3,824	9,044	926	2,718	68,690	1,596	4,434	0
20 UNIV OF CAL DAVIS	89,784	3,037	2,759	321	152	82,542	127	846	0
TOTAL, 1ST 20 INSTS.	2,577,270	398,490	327,510	218,307	105,631	1,295,264	47,366	124,319	60,383
21 UNIVERSITY OF ARIZONA	88,247	6,440	18,332	14,581	1,174	41,637	769	4,890	424
22 UNIV OF SOUTHERN CAL	87,140	22,829	3,368	6,641	2,271	46,079	2,907	3,045	0
23 OHIO STATE UNIVERSITY	82,614	15,712	5,021	2,111	1,219	45,823	545	2,921	9,262
24 PENNSYLVANIA STATE UNIV	82,034	30,258	5,102	8,152	5,118	28,391	301	2,687	2,025
25 MICHIGAN STATE UNIVERSITY	71,922	2,754	12,489	940	899	51,066	952	2,822	0
26 GEORGIA INSTITUTE OF TECH	71,402	50,454	5,678	3,948	5,451	1,248	597	2,569	1,457
27 UNIVERSITY OF CHICAGO	69,018	0	17,722E	2,289E	853E	45,285E	909E	1,960E	0
28 UNIVERSITY OF FLORIDA	68,370	14,601	4,534	2,125	1,055	42,922	899	1,002	1,232
29 WASHINGTON UNIVERSITY	68,049	2,838	2,715	1,049	3,825	56,523	675	424	0
30 PURDUE UNIVERSITY	67,299	20,741	7,653	1,207	1,725	31,251	826	3,772	124
TOTAL, 1ST 30 INSTS.	3,333,365	565,117	410,124	261,350	129,221	1,685,489	56,746	150,411	74,907
31 LOUISIANA STATE UNIV	66,814	6,300	4,179	7,042	1,952	44,567	193	2,581	0
32 UNIVERSITY OF COLORADO	66,377E	3,307	13,345	7,051	597	35,931E	3,091E	3,055	0
33 NEW YORK UNIVERSITY	66,139	0	3,158	330	6,473	50,185	1,202	2,545	2,246
34 UNIVERSITY OF ROCHESTER	65,547	11,297	8,223	126	1,236	42,167	1,709	448	341
35 UNIVERSITY OF GEORGIA	62,161	2,136	1,955	2,614	1,926	47,258	755	8,517	0
36 OREGON STATE UNIVERSITY	56,769	3,442	1,535	13,899	576	35,381	0	1,352	584
37 N C STATE UNIV AT RALEIGH	55,781	11,376I	1,753I	3,845I	1,235I	37,343I	77I	152I	0
38 UNIVERSITY OF IOWA	55,406	5,698	8,301	345	1,497	36,312	934	2,250	69
39 IOWA ST U OF SCI & TECH	55,294	10,696	1,885	615	3,976	31,733	333	2,418	3,638
40 UNIVERSITY OF CONNECTICUT	55,109	5,591	4,098	1,313	672	38,457	3,251	1,727	0
TOTAL, 1ST 40 INSTS.	3,941,762	624,960	458,556	298,530	149,361	2,084,823	68,291	175,456	81,785
41 YESHIVA UNIVERSITY	52,235	0	0	0	251	51,736	0	248	0
42 UNIVERSITY OF MIAMI	51,899	970	318	16,125	187	33,737	160	14	388
43 DUKE UNIVERSITY	49,155E	1,361I	3,214I	1,431I	369I	41,384I	518I	1,378I	0
44 BAYLOR COL OF MEDICINE	48,661	0	0	0	0	48,661	0	0	0
45 UNIV OF NC AT CHAPEL HILL	47,711	0	2,973	2,114	1,302	31,747	2,874	5,701	0
46 COLORADO STATE UNIVERSITY	46,641	8,235	3,239	3,683	1,026	25,613	246	3,394	1,205
47 UNIVERSITY OF PITTSBURGH	46,548	3,841	6,480	174	1,325	32,435	395	805	1,093
48 ROCKEFELLER UNIVERSITY	46,172	0	3,071	0	1,120	37,643	4,338	0	0
49 NORTHWESTERN UNIVERSITY	45,810	6,713	4,460	632	361	26,675	774	883	5,312
50 UNIV OF NEBRASKA-LINCOLN	44,172	3,553	4,489	5,726	451	27,276	396	1,794	487
TOTAL, 1ST 50 INSTS.	4,421,266	649,633	486,800	329,415	155,753	2,441,730	77,992	189,673	90,270

SEE FOOTNOTES AT END OF TABLE.

TABLE B-33. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
51 CALIFORNIA INST OF TECH	44,048	8,999	17,661	7,234	2,142	7,118	0	741	153
52 UNIVERSITY OF UTAH	43,765	8,543	4,923	1,773	1,656	25,837	205	828	0
53 UNIV OF HAWAII-MANOA	43,439	1,920	8,756	11,742	135	14,502	129	1,472	4,773
54 CASE WESTERN RESERVE UNIV	43,129	11,103	3,492	433	130	26,911	197	863	0
55 RUTGERS THE ST UNIV OF NJ	42,938	3,079	4,736	2,994	2,571	17,241	2,904	5,626	3,787
56 INDIANA UNIVERSITY	42,558	185	11,891	636	988	23,130	1,864	2,000	1,864
57 UNIV OF MISSOURI COLUMBIA	40,978	2,092	593	1,021	253	33,240	589	3,153	37
58 U TEXAS SYSTEM CANCER CTR	40,369	0	1,805	0	2,191	36,373	0	0	0
59 VA POLYTECH INST & ST U	39,909	11,591	2,986	2,467	522	20,772	204	1,267	0
60 OKLAHOMA STATE UNIVERSITY	39,472	8,172I	1,686I	543I	132I	24,182I	171	2,902I	1,838I
TOTAL, 1ST 60 INSTS.	4,841,871	705,427	545,329	358,258	166,473	2,671,036	84,101	208,525	102,722
61 UNIVERSITY OF KENTUCKY	38,907	7,450	583	1,193	233	28,773	0	675	0
62 UNIV OF ALASKA FAIRBANKS	38,218	2,022	344	21,623	258	8,497	0	2,621	2,853
63 CARNEGIE-MELLON UNIV	37,316	8,794	4,090	1,739	11,434	6,300	1,360	2,550	1,049
64 PRINCETON UNIVERSITY	36,641	8,253	11,023	4,261	2,179	4,724	1,173	5,028	0
65 MISSISSIPPI STATE UNIV	36,582	4,701	683	710	79	27,345	0	2,699	365
66 SUNY AT STONY BROOK	36,468	2,331	8,973	4,892	1,182	17,088	761	643	641
67 UNIV ALABAMA BIRMINGHAM	35,792	63	19	0	93	35,617	0	0	0
68 UNIV OF CAL RIVERSIDE	35,539	0	1,806	916	302	31,739	228	548	0
69 KANS ST U - AG & APP SCI	34,806	3,417	1,377	330	288	21,195	46	781	7,372
70 NEW MEXICO STATE UNIV	34,650	15,121	1,023	3,234	7,785	6,711	340	433	3
TOTAL, 1ST 70 INSTS.	5,206,790	757,579	575,250	397,155	190,306	2,808,982	88,009	224,503	115,005
71 WASHINGTON STATE UNIV	34,257	3,601	1,274	182	1,000	24,473	10	412	3,305
72 UNIV OF MD COLLEGE PARK	34,251	4,151	18,363	2,138	2,024	5,369	517	1,689	0
73 UTAH STATE UNIVERSITY	33,822	12,402	971	3,777	114	13,196	110	1,820	1,432
74 WOODS HOLE OCNGRPHIC INST	33,725	4,778	0	28,947	0	0	0	0	0
75 UNIVERSITY OF VIRGINIA	33,661	6,271	3,586	2,785	606	18,471	363	1,329	250
76 U TEX HLTH SCI CTR DALLAS	32,058	0	0	0	0	32,058	0	0	0
77 UNIV OF CAL IRVINE	31,456	1,593	7,309	96	719	20,874	0	865	0
78 UNIVERSITY OF NEW MEXICO	30,977	8,430	1,879	1,063	551	15,292	200	3,562	0
79 BOSTON UNIVERSITY	30,603	201	1,896	55	267	26,172	435	498E	1,079E
80 CUNY MT SINAI SCH OF MED	29,797	0	0	0	0	29,797	0	0	0
TOTAL, 1ST 80 INSTS.	5,531,397	799,006	610,528	436,199	195,587	3,044,684	89,644	234,678	121,071
81 UNIVERSITY OF OKLAHOMA	29,785	4,230	3,452	2,494	3,861	10,809	1,163	2,937	839
82 UNIV OF MASS AT AMHERST	28,887	3,318	8,154	2,870	1,539	10,370	1,286	1,350	0
83 UNIVERSITY OF CINCINNATI	28,573	2,737	1,495	169	122	23,297	13	73	667
84 SUNY AT BUFFALO	27,800	3,282	2,742	732	770	18,973	400	690	211
85 UNIV OF ARK FAYETTEVILLE	26,653	3,246	2,776	323	465	17,015	178	1,864	786
86 VANDERBILT UNIVERSITY	24,993	958	1,533	8	127	20,371	1,048	873	0
87 CLEMSON UNIVERSITY	23,552	6,326	1,113	0	401	14,380	0	1,332	0
88 GEORGE WASHINGTON UNIV	23,334	3,634	675	57	2,708	10,032	68	2,108	4,052
89 AUBURN UNIVERSITY	23,256	2,008	646	0	13	20,547	0	42	0
90 UNIV OF RHODE ISLAND	23,000E	3,950I	451I	15,290I	0	2,676I	0	633I	0
TOTAL, 1ST 90 INSTS.	5,791,230	832,695	633,565	458,217	205,593	3,193,154	93,800	246,580	127,626
91 FLORIDA STATE UNIVERSITY	22,877	0	6,378	4,487	3,195	5,138	1,699	1,914	66
92 VIRGINIA COMMONHLTH UNIV	22,385	0	575	0	20	21,171	159	460	0
93 WAYNE STATE UNIVERSITY	21,542	2,300	3,670	50	242	13,909	231	518	622
94 TEMPLE UNIVERSITY	21,503	0	1,284	234	330	18,521	172	962	0
95 EMORY UNIVERSITY	21,423	0	1,109	2	71	19,779	365	97	0
96 BROWN UNIVERSITY	21,331	4,040	3,371	2,345	2,399	7,555	558	1,063	0
97 WEST VIRGINIA UNIVERSITY	21,080	4,642	1,046	537	160	12,195	117	2,383	0
98 UNIVERSITY OF KANSAS	20,534	2,069I	1,467I	2,797I	205I	7,580I	4,812I	1,285I	319I
99 RENSSELAER POLYTECH INST	20,302	14,282	3,488	382	771	715	108	140	416
100 SYRACUSE UNIVERSITY	19,442	4,890	4,090	135	745	3,755	466	4,536	825
TOTAL, 1ST 100 INSTS.	6,003,649	864,918	660,043	469,186	213,731	3,303,472	102,487	259,938	129,874

SEE FOOTNOTES AT END OF TABLE.

TABLE B-33. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
101 U TEX HLTH SCI CTR S ANTO	19,341	0	0	0	0	19,341	0	0	0
102 TULANE UNIVERSITY	19,271	984	574	9	272	16,292	107	1,031	0
103 GEORGETOWN UNIVERSITY	18,888	0	1,137E	0	13E	14,921E	0	281E	2,536E
104 UNIVERSITY OF DAYTON	18,612	10,944	4,026	76	1,439	138	1,590	2E	397E
105 UNIV OF MAINE ORONO	18,599	1,931	1,124	3,369	159	9,022	226	1,803	965
106 UNIV OF VT & ST AGRIC COL	18,575	413	822	10	67	16,666	213	16	368
107 U TEX HLTH SCI CTR HOUSTN	18,281	0	0	141	0	17,487	0	653	0
108 U TEX MED BRNCH GALVESTON	18,272	0	0	0	0	18,272	0	0	0
109 NORTH DAKOTA STATE UNIV	18,101	37	246	13	53	16,911	244	597	0
110 UNIVERSITY OF DELAWARE	17,875	4,493	1,643	3,235	438	4,699	154	489	2,724
TOTAL, 1ST 110 INSTS.	6,189,464	883,720	669,617	476,039	216,172	3,437,221	105,021	264,810	136,864
111 UNIV OF ILL MED CTR CHGO	17,485I	0	0	0	0	17,485I	0	0	0
112 UNIVERSITY OF DENVER	17,333	6,171	3,110	81	374	392	1,381	5,076	748
113 UNIVERSITY OF IDAHO	17,272	1,616	220	862	55	13,322	0	1,180	17
114 THE OREG HLTH SCI UNIV	16,954	0	0	0	0	16,876	78	0	0
115 COL OF MED & DENT OF N J	16,123	0	0	0	0	16,123	0	0	0
116 MONTANA STATE UNIVERSITY	15,333	2,032	1,876	59	84	10,590	38	654	0
117 UNIVERSITY OF WYOMING	14,622	1,432	1,792	2,873	10	7,162	178	974	201
118 UNIV OF P R-MAYAGUEZ	14,611I	160I	12I	256I	0	14,183I	0	0	0
119 INST OF AGRI UNIV OF TENN	14,545	579	0	0	0	13,138	0	828	0
120 DARTMOUTH COLLEGE	14,525	1,531	962	230	214	11,314	143	8	123
TOTAL, 1ST 120 INSTS.	6,348,267	897,241	677,589	480,400	216,909	3,557,806	106,839	273,530	137,953
121 SUNY UPSTATE MEDICAL CTR	14,476	0	0	0	0	14,476	0	0	0
122 U OF HOUSTON CENTRAL CAM	13,932	4,241	2,673	2,727	73	2,598	1,078	530	12
123 LEHIGH UNIVERSITY	13,679	6,110	3,280	595	786	498	18	410	1,982
124 BRANDEIS UNIVERSITY	13,654	0	1,951	0	782	6,576	590	3,560	195
125 UNIV OF MD BALT PROF SCH	13,553I	0	0	0	0	13,501I	0	52I	0
126 TEXAS TECH UNIVERSITY	13,261	5,509	1,012	529	98	5,656	23	434	0
127 UNIV OF SOUTH CAROLINA	13,249	727	3,168	2,996	476	4,199	881	802	0
128 TUFTS UNIVERSITY	13,177I	671I	723I	0	50I	11,295I	239I	199I	0
129 UNIV OF NEW HAMPSHIRE	13,162	1,093	3,251	1,980	55	5,169	116	275	1,223
130 UNIV OF CAL SANTA BARBARA	13,102	1,483	6,116	585	1,041	1,629	459	1,789	0
TOTAL, 1ST 130 INSTS.	6,483,512	917,075	699,763	489,813	220,270	3,623,403	110,243	281,581	141,365
131 U TENNESSEE KNOXVILLE	12,822	3,192	2,778	940	337	3,835	223	1,517	0
132 MEDICAL COLLEGE OF WIS	12,741I	0	0	0	0	12,741I	0	0	0
133 UNIV OF ILL CHICAGO CIR	12,662	3,138	2,740	726	1,032	1,346	959	2,721	0
134 SUNY DOWNSTATE MED CTR	12,510	0	0	0	0	12,510	0	0	0
135 UNIVERSITY OF NOTRE DAME	12,472	4,535	5,616	23	137	1,675	100	19	367
136 ST JOHN'S UNIVERSITY (NY)	11,950	0	1,488	0	2,383	1,834	1,658	4,387	0
137 ARIZONA STATE UNIVERSITY	11,511	3,113	3,693	1,035	437	1,137	380	1,716	0
138 UNIV OF NEVADA - RENO	11,441	713E	309E	1,058E	0	8,615E	76E	670E	0
139 TENNESSEE STATE UNIV	11,372	388I	1,764I	1,520I	590I	4,115I	448I	2,295I	252I
140 HOWARD UNIVERSITY	11,244	890	1,136	40	110	8,413	55	600	0
TOTAL, 1ST 140 INSTS.	6,604,037	933,044	719,287	495,154	225,296	3,679,624	114,142	295,506	141,984
141 ALBANY MEDICAL COLLEGE	11,197	0	0	0	0	11,197	0	0	0
142 UNIV OF CAL SANTA CRUZ	11,094	0	4,794	567	279	4,958	273	223	0
143 RUSH UNIVERSITY	10,864	0	0	0	0	10,561	303	0	0
144 UNIVERSITY OF OREGON MAIN	10,504	0	5,147	714	154	2,756	643	718	372
145 UNIVERSITY OF MISSISSIPPI	9,912E	441	837	58	0	8,394E	0	182	0
146 U MASS MED SCHL WORCESTER	9,886	0	0	0	0	9,886	0	0	0
147 RICE UNIVERSITY	9,861E	1,852I	4,700I	747I	536I	1,864I	116I	46I	0
148 MED UNIV OF SO CAROLINA	9,655	0	0	0	23	9,632	0	0	0
149 SOUTHERN ILL U-CARBONDALE	9,387	245	530	2,611	11	3,353	205	1,437	995
150 THOMAS JEFFERSON UNIV	9,345	0	0	0	0	9,345	0	0	0
TOTAL, 1ST 150 INSTS.	6,705,742	935,582	735,295	499,851	226,299	3,751,570	115,682	298,112	143,351

SEE FOOTNOTES AT END OF TABLE.

TABLE B-33. -- R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES
BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
151 SUNY AT ALBANY	8,800	0	1,686	2,885	238	1,752	850	1,389	0
152 MICHIGAN TECH UNIVERSITY	8,772	5,061	1,372	476	89	1,594	0	180	0
153 UNIV TENN CTR HEALTH SCI	8,749	0	0	0	0	8,749	0	0	0
154 SOUTH DAKOTA STATE UNIV	8,722	516I	98I	91I	0	6,625I	0	1,392I	0
155 UNIVERSITY OF N DAKOTA	8,332	1,763	399	1,697	1	2,680	7	1,785	0
156 US NAVAL POSTGRAD SCHOOL	7,956	1,994	702	2,292	1,114	12	307	1,535	0
157 N MEX INST MINING & TECH	7,749	4,767	244	2,466	25	20	27	0	0
158 UNIV OF WIS-MILWAUKEE	7,586	1,185	1,670	1,564	69	406	175	1,372	1,145
159 UNIV OF MISSOURI ROLLA	7,471	5,237	1,815	45	154	87	7	49	77
160 U OF CAL SYS WIDE PRGMS	7,388	0	0	183	0	7,205	0	0	0
TOTAL, 1ST 160 INSTS.	6,787,267	956,105	743,281	511,750	227,989	3,780,700	117,055	305,814	144,573
161 UNIVERSITY OF LOUISVILLE	7,294	501	395	40	53	4,205	524	726	850
162 MEDICAL COL OF GEORGIA	7,140	0	0	0	0	7,140	0	0	0
163 NORTHEASTERN UNIVERSITY	6,889	1,659	2,375	32	202	834	647	1,125	15
164 WAKE FOREST UNIVERSITY	6,742I	0	89I	0	0	6,423I	0	164I	66I
165 HAHNEMANN MED COL & HOSP	6,659	0	0	0	0	6,408	251	0	0
166 UNIV OF SOUTH FLORIDA	6,600	923	410	1,143	275	3,371	52	408	18
167 WRIGHT STATE UNIVERSITY	6,521	947	1,206	207	21	3,913	125	102	0
168 U OF NEB MED CTR AT OMAHA	6,483	0	0	0	0	6,483	0	0	0
169 ST LOUIS UNIVERSITY	6,479I	40I	38I	641I	0	5,389I	109I	262I	0
170 SUNY COL OF ENV SCI & FOR	6,290I	1,506I	943I	2,370I	0	1,471I	0	0	0
TOTAL, 1ST 170 INSTS.	6,854,364	961,681	748,737	516,183	228,540	3,826,337	118,763	308,601	145,522
171 UNIV OF TEXAS AT DALLAS	6,221	0	2,974	1,262	173	1,473	172	167	0
172 BOSTON COLLEGE	6,151	0	3,750	1,130	0	258	62	951	0
173 SAN DIEGO STATE UNIV	6,041	2,173	797	197	158	2,286	336	85E	9E
174 NEW YORK MEDICAL COLLEGE	6,026	0	0	0	0	6,026	0	0	0
175 COLORADO SCHOOL OF MINES	5,897	3,272	592	852	14	0	0	367	800
176 THE MEDICAL COL OF PENNA	5,867	0	0	0	0	5,867	0	0	0
177 INSTITUTE PAPER CHEMISTRY	5,856	3,397	1,174	454	17	814	0	0	0
178 NORTH TEXAS STATE UNIV	5,811	0	1,799I	980I	80I	712I	24I	1,571I	645I
179 DESERT RESEARCH INSTITUTE	5,798	0	0	5,514	0	60	0	224	0
180 MED COL OF OHIO AT TOLEDO	5,698I	0	0	0	0	5,698I	0	0	0
TOTAL, 1ST 180 INSTS.	6,913,730	970,523	759,823	526,572	228,982	3,849,531	119,357	311,966	146,976
181 U OF ARKANSAS MED SCI CAM	5,696	0	0	0	0	5,696	0	0	0
182 SUNY AT BINGHAMTON	5,636	0	865	382	419	1,704	410	1,856	0
183 SAN JOSE STATE UNIVERSITY	5,586	297I	729I	2,554I	201I	475I	0	0	1,330I
184 UNIV OF WEST FLORIDA	5,552	57	13	395	1,455	58	10	3,624	0
185 UNIV OF CENTRAL FLORIDA	5,441	4,304	222	0	158	236	415	106	0
186 OHIO UNIVERSITY	5,400	2,596	980	178	220	1,161	150	115	0
187 ILLINOIS INST OF TECH	5,202	2,431	1,393	729	279	245	33	60	32
188 DREXEL UNIVERSITY	5,192	2,759	1,783	0	274	342	34	0	0
189 POLYTECHNIC INST OF N Y	5,184	3,657	1,340	0	58	0	0	41	88
190 WESLEYAN UNIVERSITY	5,179I	0	1,940I	17I	81I	2,493I	358I	290I	0
TOTAL, 1ST 190 INSTS.	6,967,798	986,624	769,088	530,767	232,127	3,861,941	120,767	318,058	148,426
191 STEVENS INSTITUTE OF TECH	4,691	3,783	557	52	12	0	237	50	0
192 CUNY CITY COLLEGE	4,665	1,146	2,593	100	161	663	2	0	0
193 UNIF SERV UNIV OF HLTH SC	4,645	0	0	0	0	4,645	0	0	0
194 LOYOLA UNIV - CHICAGO	4,455	0	26	0	0	3,786	0	643	C
195 BRIGHAM YOUNG UNIVERSITY	4,375	1,381	1,529	138	20	1,115	21	171	0
196 PRAIRIE VIEW A & M UNIV	4,079	132I	178I	0	70I	3,513I	0	186I	0
197 FLORIDA A & M UNIVERSITY	4,074	0	524I	499I	487I	1,483I	18I	122I	941I
198 NORTHERN ILLINOIS UNIV	4,039	66	1,018	486	484	748	64	1,172	1
199 UNIV OF P R-MED SCI CMPUS	4,015I	21I	11I	14I	4I	3,945I	2I	14I	4I
200 WORCESTER POLY INSTITUTE	4,006	3,205	302	0	21	303	0	175	0
TOTAL, 1ST 200 INSTS.	7,010,842	996,358	775,826	532,056	233,386	3,882,142	121,111	320,591	149,372
TOTAL, ALL OTHER INSTS.	249,795	28,156	47,018	28,088	11,080	87,666	10,745	33,444	3,598

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-34. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	4,749,264	697,152	649,670	391,510	179,398	2,493,092	89,105	162,656	86,681
1 JOHNS HOPKINS UNIVERSITY	271,223	74,637	51,669	26,262	45,987	64,232	744	3,598	4,094
2 MASS INST OF TECHNOLOGY	157,191	65,928	42,350	11,266	7,546	21,312	3,409	3,277	2,103
3 STANFORD UNIVERSITY	120,099	38,119	19,113	2,011	8,232	48,085	1,716	2,823	0
4 UNIV OF CAL SAN DIEGO	116,200	906	16,640	52,713	1,637	42,244	1,645	415	0
5 UNIVERSITY OF WASHINGTON	109,058	5,519	6,777	14,069	1,736	63,978	1,821	1,454	13,704
6 COLUMBIA UNIV MAIN DIV	101,974	4,642	11,118	20,829	839	61,510	461E	2,575	0
7 UNIV OF WIS-MADISON	101,019	9,396	11,271	8,991	4,827	51,944	5,465	8,812	313
8 CORNELL UNIVERSITY	90,538	17,291	20,149	3,641	2,221	43,327	972	2,834	103
9 HARVARD UNIVERSITY	87,051	1,289	10,763	5,017	1,170	61,736	1,068	4,122	1,886
10 UNIVERSITY OF MINNESOTA	83,044	6,817	7,003	1,287	1,381	61,989	2,425	1,973	169
TOTAL, 1ST 10 INSTS.	1,237,397	224,544	196,853	146,086	75,576	520,357	19,726	31,883	22,372
11 UNIV OF PENNSYLVANIA	81,014	4,679	8,078	372	2,085	53,147	995	8,387	3,271
12 UNIV OF CAL LOS ANGELES	78,222	9,835	12,200	5,299	936	45,466	3,111	1,375	0
13 YALE UNIVERSITY	76,217	3,541	8,667	852	2,306	57,617	1,031	2,203	0
14 UNIV OF CAL SAN FRANCISCO	75,536	0	0	0	0	75,536	0	0	0
15 UNIVERSITY OF MICHIGAN	74,656	10,967	6,648	4,484	921	39,633	3,407	8,596	0
16 UNIV OF CAL BERKELEY	67,208	15,460	16,254	2,446	2,406	24,984	1,900	3,758	0
17 UNIVERSITY OF CHICAGO	57,600	0	15,904	2,055	749	37,217	572	1,103	0
18 UNIV OF ILL URBANA	57,247	18,707	11,359	4,211	3,574	12,888	2,006	3,385	1,117
19 WASHINGTON UNIVERSITY	55,608	2,379	2,304	974	3,776	45,408	537	230	0
20 UNIV OF SOUTHERN CAL	55,101	17,916	2,333	4,778	1,102	26,167	1,712	1,093	0
TOTAL, 1ST 20 INSTS.	1,915,806	308,028	280,600	171,557	93,431	938,420	34,997	62,013	26,760
21 UNIVERSITY OF COLORADO	53,985E	2,469	11,756	6,363	567	27,971E	2,360E	2,499	0
22 PENNSYLVANIA STATE UNIV	53,023	22,481	4,525	5,100	640	18,308	218	1,346	405
23 UNIV OF TEXAS AT AUSTIN	52,606	6,451	12,818	4,342	1,686	5,455	886	2,041	18,927
24 UNIVERSITY OF ROCHESTER	50,233	8,932	7,511	84	1,115	31,151	789	344	307
25 NEW YORK UNIVERSITY	48,503	0	2,927	324	6,399	35,378	954	1,032	1,489
26 DUKE UNIVERSITY	47,238E	1,226I	3,092I	1,186I	322I	39,614I	518I	1,280I	0
27 OHIO STATE UNIVERSITY	45,990	8,987	4,229	1,384	997	21,263	405	1,411	7,314
28 YESHIVA UNIVERSITY	44,759	0	0	0	62	44,493	0	204	0
29 UNIVERSITY OF ARIZONA	44,113	3,829	11,420	3,825	789	21,999	642	1,609	0
30 UNIV OF CAL DAVIS	42,535	2,337	2,402	251	134	37,149	93	169	0
TOTAL, 1ST 30 INSTS.	2,398,791	364,740	341,280	194,416	106,142	1,221,201	41,862	73,948	55,202
31 PURDUE UNIVERSITY	31,949	14,452	7,039	1,086	1,625	15,445	561	1,741	0
32 CALIFORNIA INST OF TECH	39,382	8,095	17,061	6,493	1,442	5,774	0	517	0
33 UNIV OF NC AT CHAPEL HILL	39,235	0	2,944	2,062	1,229	28,536	1,868	2,596	0
34 GEORGIA INSTITUTE OF TECH	38,632	27,298	3,072	2,136	2,949	675	323	1,390	789
35 MICHIGAN STATE UNIVERSITY	38,320	1,619	9,546	674	630	23,129	596	2,126	0
36 UNIVERSITY OF IOWA	38,271	2,385	6,576	102	384	27,951	584	289	0
37 TEXAS A & M UNIVERSITY	37,221	8,355	4,492	5,599	1,187	17,066	0	522	0
38 BAYLOR COL OF MEDICINE	35,852	0	0	0	0	35,852	0	0	0
39 UNIVERSITY OF UTAH	35,019	6,100	4,174	1,064	1,104	22,011	177	389	0
40 UNIVERSITY OF PITTSBURGH	34,772	2,884	5,713	104	845	24,233	276	197	520
TOTAL, 1ST 40 INSTS.	2,777,444	435,928	401,897	213,736	117,537	1,421,873	46,247	83,715	56,511
41 UNIVERSITY OF MIAMI	34,090	538	178	10,946	135	22,170	107	11	5
42 CASE WESTERN RESERVE UNIV	34,047	8,918	2,689	387	130	21,282	193	448	0
43 UNIVERSITY OF CONNECTICUT	33,229	3,048	2,234	716	306	24,415	1,773	677	0
44 UNIVERSITY OF FLORIDA	33,178	6,370	2,607	1,410	656	21,309	526	93	207
45 NORTHWESTERN UNIVERSITY	32,728	5,573	4,009	336	358	17,454	744	388	3,866
46 OREGON STATE UNIVERSITY	32,308	1,809	1,206	9,835	244	18,561	0	459	194
47 UNIV ALABAMA BIRMINGHAM	30,234	10	0	0	25	30,199	0	0	0
48 COLORADO STATE UNIVERSITY	29,961	5,085	2,826	3,188	481	15,522	235	2,007	617
49 WOODS HOLE OCNGRPHIC INST	29,002	3,980	0	25,022	0	0	0	0	0
50 INDIANA UNIVERSITY	28,663	136	9,548	295	643	14,303	1,464	810	1,464
TOTAL, 1ST 50 INSTS.	3,094,884	471,395	427,194	265,871	120,575	1,607,088	51,289	88,608	62,864

SEE FOOTNOTES AT END OF TABLE.

TABLE B-34. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 UNIV OF MD COLLEGE PARK	27,521	2,950	15,433	1,689	1,588	4,099	482	1,280	0
52 BOSTON UNIVERSITY	27,374	116	1,699	33	267	23,842	287	496	634
53 CARNEGIE-MELLON UNIV	27,178	7,118	3,590	522	9,222	3,056	1,142	1,971	557
54 UNIVERSITY OF VIRGINIA	26,892	4,879	3,247	2,486	506	15,179	273	322	0
55 UNIV OF HAWAII-MANOA	26,516	1,079	6,881	8,559	135	6,613	129	336	2,884
56 PRINCETON UNIVERSITY	26,542	6,161	9,476	2,666	1,547	3,572	1,080	2,040	0
57 UNIV OF CAL IRVINE	26,234	1,442	7,036	96	671	16,511	0	478	0
58 NEW MEXICO STATE UNIV	26,066	13,949	944	1,170	6,700	2,900	332	70	1
59 U TEX HLTH SCI CTR DALLAS	25,121	0	0	0	0	25,121	0	0	0
60 SUNY AT STONY BROOK	24,904	1,591	6,129	3,341	807	11,641	520	438	437
TOTAL, 1ST 60 INSTS.	3,359,332	510,680	481,629	286,433	142,018	1,719,622	55,534	96,039	67,377
61 UNIVERSITY OF NEW MEXICO	21,968	7,016	1,455	884	262	9,973	162	2,216	0
62 UNIVERSITY OF GEORGIA	21,703	370	904	1,334	1,051	16,500	187	1,357	0
63 CUNY MT SINAI SCH OF MED	21,496	0	0	0	0	21,496	0	0	0
64 N C STATE UNIV AT RALEIGH	21,217	5,972I	1,215I	2,664I	454I	10,725I	35I	152I	0
65 ROCKEFELLER UNIVERSITY	21,213	0	1,431	0	396	17,711	1,675	0	0
66 UNIVERSITY OF CINCINNATI	20,060	2,165	1,291	114	119	16,110	0	52	209
67 VANDERBILT UNIVERSITY	19,649	487	1,137	79	92	16,534	759	561	0
68 GEORGE WASHINGTON UNIV	19,140	3,459	217	55	2,496	8,821	59	1,157	2,876
69 UTAH STATE UNIVERSITY	19,123	9,763	851	2,851	37	4,749	26	782	64
70 UNIV OF ALASKA FAIRBANKS	19,055	664	43	12,689	258	4,093	0	577	731
TOTAL, 1ST 70 INSTS.	3,563,956	540,576	490,173	307,103	147,183	1,846,334	58,437	102,893	71,257
71 VIRGINIA COMMONWLTH UNIV	18,852	0	516	0	20	17,945	87	284	0
72 IOWA ST U OF SCI & TECH	18,659	3,250	1,045	387	1,301	11,132	105	837	602
73 RUTGERS THE ST UNIV OF NJ	18,643	1,881	3,641	547	1,828	5,148	1,791	3,371	436E
74 UNIV OF RHODE ISLAND	18,400E	2,080I	451I	13,791I	0	1,920I	0	158I	0
75 SUNY AT BUFFALO	18,375	2,137	1,932	577	463	12,665	318	228	55
76 BROWN UNIVERSITY	18,345	3,284	3,053	2,213	2,199	6,077	558	961	0
77 LOUISIANA STATE UNIV	18,220	1,718	1,968	3,434	184	10,741	4	171	0
78 EMORY UNIVERSITY	18,015	0	934	0	66	16,623	339	53	0
79 VA POLYTECH INST & ST U	17,967	6,658	1,937	1,000	450	7,171	172	579	0
80 U TEXAS SYSTEM CANCER CTR	17,560	0	999	0	1,536	15,025	0	0	0
TOTAL, 1ST 80 INSTS.	3,746,992	561,584	506,649	329,052	155,230	1,960,781	61,811	109,535	72,350
81 UNIVERSITY OF DAYTON	16,226	9,541	3,513	66	1,254	120	1,385	0	347
82 UNIV OF MASS AT AMHERST	16,053	1,471	5,410	1,058	1,293	5,371	1,025	425	0
83 UNIV OF MISSOURI COLUMBIA	15,604	836	398	355	218	12,420	200	1,163	14
84 TEMPLE UNIVERSITY	15,541	0	872	29	151	13,860	129	500	0
85 UNIVERSITY OF KENTUCKY	15,010	2,749	380	166	138	11,132	0	445	0
86 U TEX HLTH SCI CTR HOUSTN	14,620	0	0	37	0	13,964	0	619	0
87 UNIV OF NEBRASKA-LINCOLN	13,890	1,285	2,807	2,122	97	6,982	53	544	0
88 UNIVERSITY OF OKLAHOMA	13,523	2,162	1,568	1,370	2,019	4,449	783	993	179
89 UNIVERSITY OF KANSAS	13,422	1,462I	1,189I	316I	165I	6,477I	3,586I	227I	0I
90 U TEX HLTH SCI CTR S ANTO	13,319	0	0	0	0	13,319	0	0	0
TOTAL, 1ST 90 INSTS.	3,894,200	581,090	522,786	334,571	160,565	2,038,875	68,972	114,451	72,890
91 WASHINGTON STATE UNIV	12,961	1,832	1,236	102	998	7,443	2	364	984
92 WAYNE STATE UNIVERSITY	12,903	1,119	2,329	48	235	8,816	173	174	9
93 UNIV OF VT & ST AGRIC COL	12,889	344	615	9	67	11,585	198	4	67
94 UNIV OF ILL MED CTR CHGO	12,814I	0	0	0	0	12,814I	0	0	0
95 UNIVERSITY OF DENVER	12,505	4,805	2,271	59	260	250	984	3,694	182
96 UNIV OF MD BALT PROF SCH	12,224I	0	0	0	0	12,172I	0	52I	0
97 UNIVERSITY OF IDAHO	12,127	1,003	149	483	55	9,588	0	849	0
98 DARTMOUTH COLLEGE	12,010	1,251	776	230	80	9,514	143	0	16
99 GEORGETOWN UNIVERSITY	12,004	0	859	0	0	9,749	0	233	1,163E
100 RENSSELAER POLYTECH INST	11,766	8,276	2,021	222	447	414	63	81	242E
TOTAL, 1ST 100 INSTS.	4,018,403	599,720	533,042	335,724	162,707	2,121,220	70,535	119,902	75,553

SEE FOOTNOTES AT END OF TABLE.

TABLE B-34. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
101 UNIV OF CAL RIVERSIDE	11,217	0	1,562	560	54	8,543	203	295	0
102 COL OF MED & DENT OF N J	11,115	0	0	0	0	11,115	0	0	0
103 UNIVERSITY OF NOTRE DAME	11,083	3,963	5,394	11	120	1,342	74	3	176
104 OKLAHOMA STATE UNIVERSITY	10,991	4,077I	888I	66I	95I	4,997I	17I	146I	705I
105 TUFTS UNIVERSITY	10,937I	658I	716I	0	33I	9,166I	218I	146I	0
106 KANS ST U - AG & APP SCI	10,928	1,458	945	250	230	5,574	34	449	1,988
107 TULANE UNIVERSITY	10,678	492	337	3	152	9,030	63	601	0
108 UNIV OF CAL SANTA BARBARA	10,633	1,014	5,639	523	596	1,362	361	1,138	0
109 U TEX MED BRNCH GALVESTON	10,632	0	0	0	0	10,632	0	0	0
110 BRANDEIS UNIVERSITY	10,487	0	1,788	0	293	5,362	424	2,620	0
TOTAL, 1ST 110 INSTS.	4,127,104	611,382	550,311	337,137	164,280	2,188,343	71,929	125,300	78,422
111 WEST VIRGINIA UNIVERSITY	10,476	2,408	615	416	39	6,105	108	785	0
112 FLORIDA STATE UNIVERSITY	10,385	0	3,008	2,867	742	2,668	815	222	63
113 U TENNESSEE KNOXVILLE	10,309	2,566	2,234	756	271	3,083	179	1,220	0
114 SYRACUSE UNIVERSITY	9,823	3,021	2,089	1	401	2,396	292	1,237	386
115 MISSISSIPPI STATE UNIV	9,560	2,664	302	462	3	5,462	0	667	0
116 UNIVERSITY OF DELAWARE	9,540	2,236	1,233	1,714	290	2,391	98	80	1,498
117 THE OREG HLTH SCI UNIV	9,219	0	0	0	0	9,219	0	0	0
118 CLEMSON UNIVERSITY	9,196	3,003	841	0	254	4,228	0	770	0
119 HOWARD UNIVERSITY	9,178	713	997	36	104	6,868	49	411	0
120 SUNY DOWNSTATE MED CTR	8,467	0	0	0	0	8,467	0	0	0
TOTAL, 1ST 120 INSTS.	4,223,257	627,993	561,630	343,389	166,484	2,239,230	73,470	130,692	80,369
121 UNIVERSITY OF OREGON MAIN	8,263	0	4,136	545	137	2,196	564	503	182
122 UNIV OF MAINE ORONO	8,149	574	398	1,576	159	3,894	226	357	965
123 US NAVAL POSTGRAD SCHOOL	7,853	1,994	702	2,224	1,079	12	307	1,535	0
124 ARIZONA STATE UNIVERSITY	7,840	1,808	2,892	890	247	976	328	699	0
125 MEDICAL COLLEGE OF WIS	7,741I	0	0	0	0	7,741I	0	0	0
126 UNIV OF ILL CHICAGO CIR	7,670	2,083	2,064	38	527	986	798	1,174	0
127 UNIV OF SOUTH CAROLINA	7,561	520	2,247	1,766	286	2,214	447	81	0
128 RICE UNIVERSITY	7,560E	1,318I	3,716I	272I	444I	1,698I	87I	25I	0
129 UNIV OF NEW HAMPSHIRE	7,558	749	2,901	1,331	55	2,170	108	210	34
130 AUBURN UNIVERSITY	7,473	1,017	466	0	13	5,938	0	39	0
TOTAL, 1ST 130 INSTS.	4,300,925	638,056	581,152	352,031	169,431	2,267,055	76,335	135,315	81,550
131 MED UNIV OF SO CAROLINA	7,420	0	0	0	0	7,420	0	0	0
132 UNIVERSITY OF WYOMING	7,319	905	1,303	2,404	10	1,811	158	651	77
133 ALBANY MEDICAL COLLEGE	7,251	0	0	0	0	7,251	0	0	0
134 UNIV OF CAL SANTA CRUZ	7,240	0	1,991	457	237	4,220	184	151	0
135 RUSH UNIVERSITY	7,108	0	0	0	0	6,857	251	0	0
136 UNIV TENN CTR HEALTH SCI	6,995	0	0	0	0	6,995	0	0	0
137 THOMAS JEFFERSON UNIV	6,982	0	0	0	0	6,982	0	0	0
138 MONTANA STATE UNIVERSITY	6,916	1,132	1,087	44	51	4,313	26	263	0
139 TENNESSEE STATE UNIV	6,830	298I	1,080I	1,064I	368I	3,095I	184I	711I	30I
140 UNIV OF ARK FAYETTEVILLE	6,827	1,054	1,948	156	121	2,829	37	367	315
TOTAL, 1ST 140 INSTS.	4,371,813	641,445	588,561	356,156	170,218	2,318,828	77,175	137,458	81,972
141 U MASS MED SCHL WORCESTER	6,731	0	0	0	0	6,731	0	0	0
142 SUNY AT ALBANY	6,700	0	1,507	2,044	235	1,617	713	584	0
143 U OF HOUSTON CENTRAL CAM	6,659	1,829	1,567	747	31	1,768	486	219	12
144 LEHIGH UNIVERSITY	6,447	3,592	1,455	213	397	218	15	190	367
145 MEDICAL COL OF GEORGIA	6,304	0	0	0	0	6,304	0	0	0
146 BOSTON COLLEGE	5,989	0	3,701	1,126	0	165	62	935	0
147 HAHNEMANN MED COL & HOSP	5,641	0	0	0	0	5,398	243	0	0
148 UNIV OF P R-MAYAGUEZ	5,624I	89I	12I	256I	0	5,267I	0	0	0
149 UNIVERSITY OF MISSISSIPPI	5,514E	228	619	8	0	4,503E	0	156	0
150 UNIVERSITY OF N DAKOTA	5,476	1,308	255	1,496	0	1,857	0	560	0
TOTAL, 1ST 150 INSTS.	4,432,898	648,491	597,677	362,046	170,881	2,352,656	78,694	140,102	82,351

SEE FOOTNOTES AT END OF TABLE.

TABLE B-34. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
151 WAKE FOREST UNIVERSITY	5,366I	0	52I	0	0	5,150I	0	164I	0I
152 NORTHEASTERN UNIVERSITY	5,356	1,435	1,658	28	121	727	556	818	13
153 TEXAS TECH UNIVERSITY	5,345	2,747	372	120	82	1,845	12	167	0
154 SUNY UPSTATE MEDICAL CTR	5,232	0	0	0	0	5,232	0	0	0
155 UNIV OF NEVADA - RENO	5,187	341	124	568	0	4,098	2	54	0
156 INST OF AGRI UNIV OF TENN	5,155	373	0	0	0	4,188	0	594	0
157 NEW YORK MEDICAL COLLEGE	4,995	0	0	0	0	4,995	0	0	0
158 COLORADO SCHOOL OF MINES	4,907	2,723	493	709	12	D	0	305	665E
159 ST LOUIS UNIVERSITY	4,835I	40I	36I	569I	0	3,885I	109I	196I	0
160 N MEX INST MINING & TECH	4,814	2,858	168	1,762	18	B	0	0	0
TOTAL, 1ST 160 INSTS.	4,484,090	659,008	600,580	365,802	171,114	2,382,784	79,373	142,400	83,029
161 UNIF SERV UNIV OF HLTH SC	4,645	0	0	0	0	4,645	0	0	0
162 SAN DIEGO STATE UNIV	4,494	2,037	529	143	133	1,366	250	36	0
163 NORTH DAKOTA STATE UNIV	4,428	6	135	13	36	3,765	221	252	0
164 CUNY CITY COLLEGE	4,414	1,014	2,491	100	161	646	2	0	0
165 ILLINOIS INST OF TECH	4,347	1,826	1,328	687	260	165	5	44	32
166 UNIV OF TEXAS AT DALLAS	4,338	0	2,217	711	55	1,171	110	74	0
167 MED COL OF OHIO AT TOLEDO	4,083I	0	0	0	0	4,083I	0	0	0
168 WRIGHT STATE UNIVERSITY	4,025	825	570	69	19	2,390	104	48	0
169 SUNY AT BINGHAMTON	4,001	D	551	240	284	1,432	260	1,234	0
170 POLYTECHNIC INST OF N Y	3,979	2,807E	1,029E	0	45E	0	0	31E	67E
TOTAL, 1ST 170 INSTS.	4,526,844	667,523	609,430	367,765	172,107	2,402,447	80,325	144,119	83,128
171 UNIV OF SOUTH FLORIDA	3,965	324	323	559	275	2,436	43	5E	0
172 SAN JOSE STATE UNIVERSITY	3,964	262I	676I	1,216I	154I	411I	0	0	1,245I
173 UNIVERSITY OF LOUISVILLE	3,949	342	363	5	53	2,495	516	175	0
174 SOUTHERN ILL U-CARBONDALE	3,943	133	384	1,297	0	1,568	107	118	336
175 U OF ARKANSAS MED SCI CAM	3,932	0	0	0	0	3,932	0	0	0
176 UNIV OF P R-MED SCI CMPUS	3,844I	0I	0I	0I	0I	3,844I	0I	0I	0I
177 U OF NEB MED CTR AT OMAHA	3,810	0	0	0	0	3,810	0	0	0
178 PRAIRIE VIEW A & M UNIV	3,780	132I	74I	0	70I	3,504I	0	0I	0
179 WESLEYAN UNIVERSITY	3,760I	0	1,188I	7I	23I	2,058I	334I	150I	0
180 NORTH TEXAS STATE UNIV	3,669	0	887I	593I	29I	454I	2I	1,162I	542I
TOTAL, 1ST 180 INSTS.	4,565,460	668,716	613,325	371,442	172,711	2,426,959	81,327	145,729	85,251
181 DREXEL UNIVERSITY	3,636	1,907	1,236	0	226	236	31	0	0
182 THE MEDICAL COL OF PENNA	3,470	0	0	0	0	3,470	0	0	0
183 MICHIGAN TECH UNIVERSITY	3,431	2,155	792	72	25	387	0	0	0
184 UNIV OF MISSOURI ROLLA	3,241	2,110	868	6	111	83	0	0	63
185 UNIV OF WIS-MILWAUKEE	3,192	539	761	639	29	135	116	761	212
186 UNIV OF SOUTH ALABAMA	2,954	4	86	2	0	2,862	0	0	0
187 STEVENS INSTITUTE OF TECH	2,911	2,517	373	10	11	0	0	0	0
188 DESERT RESEARCH INSTITUTE	2,821	0	0	2,723	0	28	0	70	0
189 MCNEESE STATE UNIVERSITY	2,694	0	23	5	0	2,666	0	0	0
190 LOYOLA UNIV - CHICAGO	2,652	0	4	0	0	2,093	0	555	0
TOTAL, 1ST 190 INSTS.	4,596,462	677,948	617,468	374,899	173,113	2,438,919	81,474	147,115	85,526
191 NC AG & TECH STATE UNIV	2,641	456	417	0	D	1,345	287	136	0
192 CATHOLIC UNIV OF AMERICA	2,448	556	1,240	0	44	300	120	128	60
193 CLARKSON COLLEGE OF TECH	,428	1,105	1,120	0	198	5	0	0	0
194 SOUTHERN U & A&M COLLEGE	,361	145	0	23	11	2,182	0	0	0
195 SOUTH DAKOTA STATE UNIV	2,243	281I	28I	59I	D	1,709I	0	166I	0
196 SOUTHERN METHODIST UNIV	2,223	620	24	528	260	401	11	379	0
197 CUNY HUNTER COLLEGE	2,150	0	696	0	3	1,222	186	43	0
198 OHIO UNIVERSITY	2,140	767	506	115	76	526	130	20	0
199 UNIV ALABAMA HUNTSVILLE	2,036	757	778	281	44	152	0	24	0
200 MEHARRY MEDICAL COLLEGE	1,922	0I	0I	0I	0I	1,922I	0I	0I	0I
TOTAL, 1ST 200 INSTS.	4,619,054	682,635	622,277	375,905	173,749	2,448,683	82,208	148,011	85,586
TOTAL, ALL OTHER INSTS.	130,210	14,517	27,393	15,605	5,649	44,409	6,897	14,645	1,095

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-35. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	2,511,373	327,362	173,174	168,634	65,068	1,476,716	42,751	191,379	66,289
1 UNIVERSITY OF MINNESOTA	63,422	5,965	2,087	1,315	386	48,745	952	2,619	1,353
2 UNIV OF WIS-MADISON	56,501	6,492	3,219	4,774	1,057	33,777	956	3,169	3,057
3 CORNELL UNIVERSITY	55,231	5,292E	3,674E	441E	428E	39,935E	1,311E	4,078E	78E
4 TEXAS A & M UNIVERSITY	54,559	14,415	1,893	1,296	58	36,156	32	723	0
5 LOUISIANA STATE UNIV	48,594	4,582	2,211	3,608	1,768	33,826	189	2,410	0
6 UNIV OF CAL DAVIS	47,249	700	357	70	10	45,393	34	677	0
7 UNIVERSITY OF MICHIGAN	45,317	6,400	1,302	1,486	1,515	19,874	4,845	10,695	0
8 UNIVERSITY OF ARIZONA	44,134	2,611	6,912	10,756	385	19,638	127	3,281	424
9 UNIVERSITY OF GEORGIA	43,458	1,766	1,051	1,280	875	30,758	568	7,160	0
10 UNIV OF TEXAS AT AUSTIN	39,463	7,056	8,689	9,183	1,923	4,240	246	4,155	3,971
TOTAL, 1ST 10 INSTS.	497,928	55,279	31,395	34,209	8,407	311,542	9,246	38,967	8,883
11 UNIV OF ILL URBANA	38,622	6,226	3,320	4,780	3,279	12,707	508	6,357	1,445
12 IOWA ST U OF SCI & TECH	36,635	7,446	840	228	2,675	20,601	228	1,581	3,036
13 OHIO STATE UNIVERSITY	36,624	6,725	792	727	222	24,560	140	1,510	1,948
14 MASS INST OF TECHNOLOGY	35,271	18,181	6,744	705	1,219	4,879	150	2,033	1,360
15 UNIVERSITY OF FLORIDA	35,192	8,231	1,927	715	399	21,613	373	909	1,025
16 UNIV OF CAL BERKELEY	35,161	5,829	1,888	1,144	268	18,934	1,998	5,100	0
17 N C STATE UNIV AT RALEIGH	34,564	5,404I	538I	1,181I	781I	26,618I	42I	0I	0
18 MICHIGAN STATE UNIVERSITY	33,602	1,135	2,943	266	269	27,937	356	696	0
19 GEORGIA INSTITUTE OF TECH	32,770	23,156	2,606	1,812	2,502	573	274	1,179	668
20 UNIV OF SOUTHERN CAL	32,039	4,913	1,035	1,863	1,169	19,912	1,195	1,952	0
TOTAL, 1ST 20 INSTS.	848,408	142,525	54,028	47,630	21,190	489,876	14,510	60,284	18,365
21 UNIV OF PENNSYLVANIA	31,822	1,875	1,078	303	1,077	19,099	136	7,624	630
22 UNIV OF NEBRASKA-LINCOLN	30,282	2,268	1,682	3,604	354	20,294	343	1,250	487
23 PENNSYLVANIA STATE UNIV	29,011	7,777	577	3,052	4,478	10,083	83	1,341	1,620
24 OKLAHOMA STATE UNIVERSITY	28,481	4,095I	798I	477I	37I	19,185I	0I	2,756I	1,133I
25 HARVARD UNIVERSITY	27,890E	414E	3,449E	1,607E	375E	19,779E	342E	1,320E	604E
26 STANFORD UNIVERSITY	27,842	6,964	4,020	1,226	1,981	12,278	828	545	0
27 MISSISSIPPI STATE UNIV	27,022	2,037	381	248	76	21,883	0	2,032	365
28 UNIV OF MISSOURI COLUMBIA	25,374	1,256	195	666	35	20,820	389	1,990	23
29 PURDUE UNIVERSITY	25,350	6,289	614	121	100	15,806	265	2,031	124
30 UNIV OF CAL LOS ANGELES	25,072	1,665	376	1,673	40	15,888	328	5,102	0
TOTAL, 1ST 30 INSTS.	1,126,554	177,165	67,198	60,607	29,743	664,991	17,224	86,275	23,351
31 ROCKEFELLER UNIVERSITY	24,959	0	1,640	0	724	19,932	2,663	0	0
32 OREGON STATE UNIVERSITY	24,461	1,633	329	4,064	332	16,820	0	893	390
33 UNIV OF CAL RIVERSIDE	24,322	0	244	356	248	23,196	25	253	0
34 RUTGERS THE ST UNIV OF NJ	24,295	1,198	1,095	2,447	743	12,093	1,113	2,255	3,351E
35 UNIVERSITY OF WASHINGTON	24,057	2,240	1,310	1,186	252	16,188	257	1,161	1,463E
36 UNIVERSITY OF KENTUCKY	23,897	4,701	203	1,027	95	17,641	0	230	0
37 KANS ST U - AG & APP SCI	23,878	1,959	432	80	58	15,621	12	332	5,384
38 U TEXAS SYSTEM CANCER CTR	22,809	0	806	0	655	21,348	0	0	0
39 UNIV OF CAL SAN DIEGO	22,694	81	1,195	8,576	270	11,754	341	477	0
40 VA POLYTECH INST & ST U	21,942	5,033	1,049	1,467	72	13,601	32	688	0
TOTAL, 1ST 40 INSTS.	1,363,868	194,010	75,501	79,810	33,192	833,185	21,667	92,564	33,939
41 UNIVERSITY OF CONNECTICUT	21,880	2,543	1,864	597	306	14,042	1,478	1,050	0
42 WASHINGTON STATE UNIV	21,296	1,769	38	80	2	17,030	8	48	2,321
43 UNIV OF ARK FAYETTEVILLE	19,826	2,192	828	167	344	14,186	141	1,497	471
44 UNIV OF CAL SAN FRANCISCO	19,746	0	0	0	0	19,746	0	0	0
45 UNIV OF ALASKA FAIRBANKS	19,163	1,358	301	8,934	0	4,404	0	2,044	2,122
46 JOHNS HOPKINS UNIVERSITY	18,717	1,828	2,243	3,037	266	9,582	339	687	735
47 UNIVERSITY OF MIAMI	17,809	432	140	5,179	52	11,567	53	3	383
48 NEW YORK UNIVERSITY	17,636	0	231	6	74	14,807	248	1,513	757
49 UNIVERSITY OF IOWA	17,135	3,313	1,725	243	1,113	8,361	350	1,961	69
50 UNIV OF HAWAII-MANOA	16,823	851	1,875	3,183	0	7,889	0	1,136	1,889
TOTAL, 1ST 50 INSTS.	1,553,899	208,296	84,746	101,236	35,349	954,799	24,284	102,503	42,686

SEE FOOTNOTES AT END OF TABLE.

TABLE B-35. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 COLORADO STATE UNIVERSITY	16,680	3,150	413	495	545	10,091	11	1,387	588
52 UNIVERSITY OF OKLAHOMA	16,462	2,068	1,884	1,124	1,842	6,360	380	1,944	660
53 AUBURN UNIVERSITY	15,783	991	180	0	0	14,609	0	3	0
54 UNIVERSITY OF ROCHESTER	15,314	2,365	712	42	121	11,016	920	104	34
55 YALE UNIVERSITY	15,015	283	377	74	412	11,073	565	2,231	0
56 UTAH STATE UNIVERSITY	14,699	2,639	120	926	77	8,447	84	1,038	1,368
57 CLEMSON UNIVERSITY	14,356	3,323	272	0	47	10,152	0	562	0
58 INDIANA UNIVERSITY	13,895	49	2,343	341	345	8,827	400	1,190	400
59 COLUMBIA UNIV MAIN DIV	13,760	1,708	518	1,489	2	6,739	57E	3,247	0
60 NORTH DAKOTA STATE UNIV	13,673	31	111	0	17	13,146	23	345	0
TOTAL, 1ST 60 INSTS.	1,703,336	224,903	91,676	105,727	38,757	1,055,259	26,724	114,554	45,736
61 NORTHWESTERN UNIVERSITY	13,082	1,140	451	296	3	9,221	30	495	1,446
62 UNIV OF MASS AT AMHERST	12,834	1,847	2,744	1,812	246	4,999	261	925	0
63 BAYLOR COL OF MEDICINE	12,809	0	0	0	0	12,809	0	0	0
64 FLORIDA STATE UNIVERSITY	12,492	0	3,370	1,620	2,453	2,470	884	1,692	3
65 WASHINGTON UNIVERSITY	12,441	459	411	75	49	11,115	138	194	0
66 UNIVERSITY OF COLORADO	12,392E	838	1,589	688	30	7,960E	731E	556	0
67 UNIVERSITY OF PITTSBURGH	11,776	957	767	70	480	8,202	119	608	573
68 ST JOHN'S UNIVERSITY (NY)	11,580	0	1,468	0	2,383	1,684	1,658	4,387	0
69 SUNY AT STONY BROOK	11,564	740	2,844	1,551	375	5,404	241	205	204
70 UNIVERSITY OF CHICAGO	11,418	0	1,818E	234E	104E	8,068E	337E	857E	0
TOTAL, 1ST 70 INSTS.	1,825,724	230,884	107,138	112,073	44,880	1,127,191	31,123	124,473	47,962
71 WEST VIRGINIA UNIVERSITY	10,604	2,234	431	121	121	6,090	9	1,598	0
72 UNIV OF MAINE ORONO	10,450	1,357	726	1,793	0	5,128	0	1,446	0
73 CARNEGIE-MELLON UNIV	10,138	1,676	500	1,217	2,212	3,244	218	579	492
74 PRINCETON UNIVERSITY	10,099	2,092	1,547	1,595	632	1,152	93	2,988	0
75 SYRACUSE UNIVERSITY	9,619	1,869	2,001	134	344	1,359	174	3,299	439
76 SUNY AT BUFFALO	9,425	1,145	810	155	307	6,308	82	462	156
77 INST OF AGRI UNIV OF TENN	9,390	206	0	0	0	8,950	0	234	0
78 SUNY UPSTATE MEDICAL CTR	9,244	0	0	0	0	9,244	0	0	0
79 CASE WESTERN RESERVE UNIV	9,082	2,185	803	46	0	5,629	4	415	0
80 UNIVERSITY OF NEW MEXICO	9,009	1,414	424	179	289	5,319	38	1,346	0
TOTAL, 1ST 80 INSTS.	1,922,784	245,062	114,380	117,313	48,785	1,179,614	31,741	136,840	49,049
81 UNIV OF P R-MAYAGUEZ	8,987I	71I	0I	0I	0	8,916I	0	0	0
82 UNIVERSITY OF UTAH	8,746	2,443	749	709	552	3,826	28	439	0
83 WAYNE STATE UNIVERSITY	8,639	1,181	1,341	2	7	5,093	58	344	613
84 TULANE UNIVERSITY	8,593	492	239	6	120	7,262	44	430	0
85 NEW MEXICO STATE UNIV	8,584	1,172	79	2,064	1,085	3,811	8	363	2
86 RENSSELAER POLYTECH INST	8,536	6,006	1,467	160	324	301	45	59	174E
87 UNIVERSITY OF CINCINNATI	8,513	572	204	55	3	7,187	13	21	458
88 UNIV OF NC AT CHAPEL HILL	8,476	0	29	1,052	73	3,211	1,006	3,105	0
89 MONTANA STATE UNIVERSITY	8,417	900	789	15	33	6,277	12	391	0
90 UNIVERSITY OF DELAWARE	8,335	2,257	410	1,521	148	2,308	56	409	1,226
TOTAL, 1ST 90 INSTS.	2,008,610	260,156	119,687	122,897	51,130	1,227,806	33,011	142,401	51,522
91 CUNY MT SINAI SCH OF MED	8,301	0	0	0	0	8,301	0	0	0
92 TEXAS TECH UNIVERSITY	7,916	2,762	640	409	16	3,811	11	267	0
93 THE OREG HLTH SCI UNIV	7,735	0	0	0	0	7,657	78	0	0
94 U TEX MED BRNCH GALVESTON	7,640	0	0	0	0	7,640	0	0	0
95 YESHIVA UNIVERSITY	7,476	0	0	0	189	7,243	0	44	0
96 UNIVERSITY OF WYOMING	7,303	527	489	469	0	5,351	20	323	124
97 U OF HOUSTON CENTRAL CAM	7,273	2,412	1,106	1,980	42	830	592	311	0
98 LEHIGH UNIVERSITY	7,232	2,518	1,825	382	389	280	3	220	1,615
99 UNIVERSITY OF KANSAS	7,112	607I	278I	2,481I	40I	1,103I	1,226I	1,058I	319I
100 U TEX HLTH SCI CTR DALLAS	6,937	0	0	0	0	6,937	0	0	0
TOTAL, 1ST 100 INSTS.	2,083,535	268,982	124,025	128,618	51,806	1,276,959	34,941	144,624	53,580

SEE FOOTNOTES AT END OF TABLE.

TABLE B-35. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
101 GEORGETOWN UNIVERSITY	6,884	0	278E	0	13E	5,172E	0	48E	1,373E
102 U OF CAL SYS WIDE PRGMS	6,822	0	0	183	0	6,639	0	0	0
103 UNIVERSITY OF VIRGINIA	6,769	1,392	339	299	100	3,292	90	1,007	250
104 UNIV OF MD COLLEGE PARK	6,730	1,201	2,930	449	436	1,270	35	409	0
105 SOUTH DAKOTA STATE UNIV	6,479	235I	70I	32I	0	4,916I	0	1,226I	0
106 UNIV OF NEVADA - RENO	6,254	372E	185E	490E	0	4,517E	74E	616E	0
107 U TEX HLTH SCI CTR S ANTO	6,022	0	0	0	0	6,022	0	0	0
108 TEMPLE UNIVERSITY	5,962	0	412	205	179	4,661	43	462	0
109 UNIV OF SOUTH CAROLINA	5,688	207	921	1,230	190	1,985	434	721	0
110 UNIV OF VT & ST AGRIC COL	5,686	69	207	1	0	5,081	15	12	301
TOTAL, 1ST 110 INSTS.	2,146,831	272,458	129,367	131,507	52,724	1,320,514	35,632	149,125	55,504
111 UNIV OF NEW HAMPSHIRE	5,604	344	350	649	0	2,999	8	65	1,189
112 UNIV ALABAMA BIRMINGHAM	5,558	53	19	0	68	5,418	0	0	0
113 SOUTHERN ILL U-CARBONDALE	5,444	112	146	1,314	11	1,785	98	1,319	659
114 VANDERBILT UNIVERSITY	5,344	471	396	4	35	3,837	289	312	0
115 MICHIGAN TECH UNIVERSITY	5,341	2,906	580	404	64	1,207	0	180	0
116 UNIV OF CAL IRVINE	5,222	151	273	0	48	4,363	0	387	0
117 UNIVERSITY OF IDAHO	5,145	613	71	379	0	3,734	0	331	17
118 COL OF MED & DENT OF N J	5,008	0	0	0	0	5,008	0	0	0
119 MEDICAL COLLEGE OF WIS	5,000I	0	0	0	0	5,000I	0	0	0
120 UNIV OF ILL CHICAGO CIR	4,992	1,055	676	688	505	360	161	1,547	0
TOTAL, 1ST 120 INSTS.	2,199,489	278,163	131,878	134,945	53,455	1,354,225	36,188	153,266	57,369
121 UNIVERSITY OF DENVER	4,828	1,366	839	22	114	142	397	1,382	566
122 WOODS HOLE OCNGRPHIC INST	4,723	798	0	3,925	0	0	0	0	0
123 UNIV OF ILL MED CTR CHGO	4,671I	0	0	0	0	4,671I	0	0	0
124 CALIFORNIA INST OF TECH	4,666	904	600	741	700	1,344	0	224	153
125 INSTITUTE PAPER CHEMISTRY	4,637	2,230	1,157	454	17	779	0	0	0
126 UNIV OF RHODE ISLAND	4,600E	1,870I	0I	1,499I	0	756I	0	475I	0
127 TENNESSEE STATE UNIV	4,542	90I	684I	456I	222I	1,020I	264I	1,584I	222I
128 SUNY COL OF ENV SCI & FOR	4,485I	1,481I	415I	1,677I	0	912I	0	0	0
129 UNIVERSITY OF MISSISSIPPI	4,398E	213	218	50	0	3,891E	0	26	0
130 UNIV OF WIS-MILWAUKEE	4,394	646	909	925	40	271	59	611	933
TOTAL, 1ST 130 INSTS.	2,245,433	287,761	136,700	144,694	54,548	1,368,011	36,908	157,568	59,243
131 UNIV OF MISSOURI ROLLA	4,230	3,127	947	39	43	4	7	49	14
132 GEORGE WASHINGTON UNIV	4,194	175	458	2	212	1,211	9	951	1,176
133 SUNY DOWNSTATE MED CTR	4,043	0	0	0	0	4,043	0	0	0
134 ALBANY MEDICAL COLLEGE	3,946	0	0	0	0	3,946	0	0	0
135 UNIV OF WEST FLORIDA	3,901	57	13	183	647	33	10	2,958	0
136 UNIV OF CAL SANTA CRUZ	3,854	0	2,803	110	42	738	89	72	0
137 RUSH UNIVERSITY	3,756	0	0	0	0	3,704	52	0	0
138 UNIV OF CENTRAL FLORIDA	3,673	3,240	74	0	75	160	18	106	0
139 ARIZONA STATE UNIVERSITY	3,671	1,305	801	145	190	161	52	1,017	0
140 U TEX HLTH SCI CTR HOUSTN	3,661	0	0	104	0	3,523	0	34	0
TOTAL, 1ST 140 INSTS.	2,284,362	295,665	141,796	145,277	55,757	1,385,534	37,145	162,755	60,433
141 VIRGINIA COMMONWLTH UNIV	3,533	0	59	0	0	3,226	72	176	0
142 EMORY UNIVERSITY	3,408	0	175	2	5	3,156	26	44	0
143 UNIVERSITY OF LOUISVILLE	3,345	159	32	35	0	1,710	8	551	850
144 OHIO UNIVERSITY	3,260	1,829	474	63	144	635	20	95	0
145 BOSTON UNIVERSITY	3,229	85	197	22	0	2,330	148	2E	445E
146 BRANDEIS UNIVERSITY	3,167	0	163	0	489	1,214	166	940	195
147 U MASS MED SCHL WORCESTER	3,155	0	0	0	0	3,155	0	0	0
148 BROWN UNIVERSITY	2,986	756	318	132	200	1,478	0	102	0
149 DESERT RESEARCH INSTITUTE	2,977	0	0	2,791	0	32	0	154	0
150 OLD DOMINION UNIVERSITY	2,955I	23I	708I	88OI	0	1,344I	0	0	0
TOTAL, 1ST 150 INSTS.	2,316,377	298,517	143,922	149,202	56,595	1,403,814	37,585	164,819	61,923

SEE FOOTNOTES AT END OF TABLE.

TABLE B-35. -- NON-FEDERAL R&D EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
151 N MEX INST MINING & TECH	2,935	1,909	76	904	7	12	27	0	0
152 UNIV OF MISSOURI SYS OFF	2,900	1,291	0	797	0	775	0	3	34
153 UNIVERSITY OF N DAKOTA	2,856	455	144	201	1	823	7	1,225	0
154 FLORIDA A & M UNIVERSITY	2,829	0	474I	473I	474I	467I	0I	0I	941I
155 NORTHERN ILLINOIS UNIV	2,798	66	611	362	213	520	59	966	1
156 U OF NEB MED CTR AT OMAHA	2,673	0	0	0	0	2,673	0	0	0
157 UNIV OF SOUTH FLORIDA	2,635	599	87	584	0	935	9	403E	18
158 DARTMOUTH COLLEGE	2,515	280	186	0	134	1,800	0	8	107
159 U TENNESSEE KNOXVILLE	2,513	626	544	184	66	752	44	297	0
160 WRIGHT STATE UNIVERSITY	2,496	122	636	138	2	1,523	21	54	0
TOTAL, 1ST 160 INSTS.	2,343,527	303,865	146,680	152,845	57,492	1,414,094	37,752	167,775	63,024
161 BRIGHAM YOUNG UNIVERSITY	2,483	637	656	54	20	930	21	165E	0
162 UNIV OF CAL SANTA BARBARA	2,469	469	477	62	445	267	98	651	0
163 DUKE UNIVERSITY	2,417E	135I	122I	245I	47I	1,770I	0I	98I	0
164 THE MEDICAL COL OF PENNA	2,397	0	0	0	0	2,397	0	0	0
165 WORCESTER POLY INSTITUTE	2,394	2,129	156	0	2	20	0	87	0
166 UNIVERSITY OF DAYTON	2,386	1,403	513	10	185	18	205	2E	50E
167 NEW YORK INST TECHNOLOGY	2,365I	232I	53I	0	1,361I	697I	22I	0	0
168 THOMAS JEFFERSON UNIV	2,363	0	0	0	0	2,363	0	0	0
169 RICE UNIVERSITY	2,301E	534I	984I	475I	92I	166I	29I	21I	0
170 UNIVERSITY OF OREGON MAIN	2,241	0	1,011	169	17	560	79	215	190
TOTAL, 1ST 170 INSTS.	2,367,343	309,404	150,652	153,860	59,661	1,423,282	38,206	169,014	63,264
171 TUFTS UNIVERSITY	2,240I	13I	7I	0	17I	2,129I	2II	53I	0
172 MED UNIV OF SO CAROLINA	2,235	0	0	0	23	2,212	0	0	0
173 U OF MD CENTER FOR EES	2,179	0	0	2,179	0	C	0	0	0
174 NORTH TEXAS STATE UNIV	2,142	0	912I	387I	51I	258I	22I	409I	103I
175 SUNY AT ALBANY	2,100	0	179	841	3	135	137	805	0
176 HOWARD UNIVERSITY	2,066	177	139	4	6	1,545	6	189	0
177 UNIVERSITY OF MONTANA	1,997	0	77	182	36	1,052	119	337	194
178 CALIF ST COL STANISLAUS	1,948	0	455	0	43	386	394	670	0
179 UNIV OF TEXAS AT DALLAS	1,883	0	757	551	118	302	62	93	0
180 LOYOLA UNIV - CHICAGO	1,803	0	22	0	0	1,693	0	88	0
TOTAL, 1ST 180 INSTS.	2,387,936	309,594	153,200	158,004	59,958	1,432,994	38,967	171,658	63,561
181 STEVENS INSTITUTE OF TECH	1,780	1,266	184	42	1	0	237	50	0
182 TEXAS A & I UNIVERSITY	1,774	60	38	2	8	1,642	2	0	32
183 U OF ARKANSAS MED SCI CAM	1,764	0	0	0	0	1,764	0	0	0
184 UNIV TENN CTR HEALTH SCI	1,754	0	0	0	0	1,754	0	0	0
185 CATHOLIC UNIV OF P R	1,731	0	549E	0	253	438E	174	317	0
186 UNIVERSITY OF NEW ORLEANS	1,720	186	619	115	3	478E	10E	309E	0
187 UNIV OF ARK PINE BLUFF	1,697	3	186	0	617	498	0	346	47
188 ST LOUIS UNIVERSITY	1,644I	0I	2I	72I	0	1,504I	0I	66I	0
189 SUNY AT BINGHAMTON	1,635	0	314	142	135	272	150	622	0
190 SAN JOSE STATE UNIVERSITY	1,622	35I	53I	1,338I	47I	64I	0	0	85I
TOTAL, 1ST 190 INSTS.	2,405,057	311,144	155,145	159,715	61,022	1,441,398	39,540	173,368	63,725
191 U HLTH SCI/CHCGO MED SCH	1,616	0	0	0	0	1,616	0	0	0
192 MED COL OF OHIO AT TOLEDO	1,615I	0	0	0	0	1,615I	0	0	0
193 TEXAS COL OF OSTEO MED	1,560	0	0	0	0	1,560	0	0	0
194 DREXEL UNIVERSITY	1,556	852	547	0	48	106	3	0	0
195 UNIV OF P R-RIO PIEDRAS	1,551I	0	180I	0	295I	183I	0	893I	0
196 SAN DIEGO STATE UNIV	1,547	136	268	54	25	920	86	49E	9E
197 NORTHEASTERN UNIVERSITY	1,533	224	717	4	81	107	91	307	2
198 WESLEYAN UNIVERSITY	1,419I	0	752I	10I	58I	435I	24I	140I	0
199 UNIVERSITY OF NOTRE DAME	1,389	572	222	12	17	333	26	16	191
200 WAKE FOREST UNIVERSITY	1,376I	0	37I	0	0	1,273I	0	0I	66I
TOTAL, 1ST 200 INSTS.	2,420,219	312,928	157,868	159,795	61,546	1,449,546	39,770	174,773	63,993
TOTAL, ALL OTHER INSTS.	91,154	14,434	15,306	8,839	3,522	27,170	2,981	16,606	2,296

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-36. -- R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	4,614,956	594,738	467,110	393,248	115,224	2,603,148	86,092	240,707	114,689
1 UNIV OF WIS-MADISON	157,520	15,888	14,490	13,765	5,884	85,721	6,421	11,981	3,370
2 UNIVERSITY OF MINNESOTA	146,466	12,782	9,090	2,602	1,767	110,734	3,377	4,592	1,522
3 UNIV OF CAL SAN DIEGO	138,894	987	17,835	61,289	1,907	53,998	1,986	892	0
4 UNIVERSITY OF WASHINGTON	133,115	7,759	8,087	15,255	1,988	80,166	2,078	2,615	15,167E
5 UNIVERSITY OF MICHIGAN	119,973	17,367	7,950	5,970	2,436	58,707	8,252	19,291	0
6 UNIV OF CAL LOS ANGELES	103,294	11,500	12,576	6,972	976	61,354	3,439	6,477	0
7 UNIV OF CAL BERKELEY	102,369	21,289	18,142	3,590	2,674	43,918	3,898	8,858	0
8 UNIV OF ILL URBANA	95,869	24,933	14,679	8,991	6,853	25,595	2,514	9,742	2,562
9 UNIV OF CAL SAN FRANCISCO	95,282	0	0	0	0	95,282	0	0	0
10 UNIV OF TEXAS AT AUSTIN	92,069	13,507	21,507	13,525	3,609	9,695	1,132	6,196	22,898
TOTAL, 1ST 10 INSTS.	1,184,851	126,012	124,356	131,959	28,094	625,170	33,097	70,644	45,519
11 TEXAS A & M UNIVERSITY	91,780	22,770	6,385	6,895	1,245	53,222	18	1,245	0
12 UNIV OF CAL DAVIS	89,784	3,037	2,759	321	152	82,542	127	846	0
13 UNIVERSITY OF ARIZONA	88,247	6,440	18,332	14,581	1,174	41,637	769	4,890	424
14 OHIO STATE UNIVERSITY	82,614	15,712	5,021	2,111	1,219	45,823	545	2,921	9,262
15 PENNSYLVANIA STATE UNIV	82,034	30,258	5,102	8,152	5,118	28,391	301	2,687	2,025
16 MICHIGAN STATE UNIVERSITY	71,922	2,754	12,489	940	899	51,066	952	2,822	0
17 GEORGIA INSTITUTE OF TECH	71,402	50,454	5,678	3,948	5,451	1,248	597	2,569	1,457
18 UNIVERSITY OF FLORIDA	68,370	14,601	4,534	2,125	1,055	42,922	899	1,002	1,232
19 PURDUE UNIVERSITY	67,299	20,741	7,653	1,207	1,725	31,251	826	3,772	124
20 LOUISIANA STATE UNIV	56,814	6,300	4,179	7,042	1,952	44,567	193	2,581	0
TOTAL, 1ST 20 INSTS.	1,965,117	299,079	196,488	179,281	48,084	1,047,839	38,324	95,979	60,043
21 UNIVERSITY OF COLORADO	66,377E	3,307	13,345	7,051	597	35,931E	3,091E	3,055	0
22 UNIVERSITY OF GEORGIA	65,161	2,136	1,955	2,614	1,926	47,258	755	8,517	0
23 OREGON STATE UNIVERSITY	56,769	3,442	1,535	13,899	576	35,381	0	1,352	584
24 N C STATE UNIV AT RALEIGH	55,781	11,376I	1,753I	3,845I	1,235I	37,343I	77I	152I	0
25 UNIVERSITY OF IOWA	55,406	5,698	8,301	345	1,497	36,312	934	2,250	69
26 IOWA ST U OF SCI & TECH	55,294	10,696	1,885	615	3,976	31,733	333	2,418	3,638
27 UNIVERSITY OF CONNECTICUT	55,109	5,591	4,098	1,313	672	38,457	3,251	1,727	0
28 UNIV OF NC AT CHAPEL HILL	47,711	0	2,973	3,114	1,302	31,747	2,874	5,701	0
29 COLORADO STATE UNIVERSITY	46,641	8,235	3,239	3,683	1,026	25,613	246	3,394	1,205
30 UNIVERSITY OF PITTSBURGH	46,548	3,841	6,480	174	1,325	32,435	395	805	1,093
TOTAL, 1ST 30 INSTS.	2,515,914	353,401	242,052	215,934	62,216	1,400,049	50,280	125,350	66,632
31 UNIV OF NEBRASKA-LINCOLN	44,172	3,553	4,489	5,726	451	27,276	396	1,794	487
32 UNIVERSITY OF UTAH	43,765	8,543	4,923	1,773	1,656	25,837	205	828	0
33 UNIV OF HAWAII-MANOA	43,439	1,930	8,756	11,742	135	14,502	129	1,472	4,773
34 RUTGERS THE ST UNIV OF NJ	42,938	3,079	4,736	2,994	2,571	17,241	2,904	5,626	3,787
35 INDIANA UNIVERSITY	42,558	185	11,891	636	988	23,130	1,864	2,000	1,864
36 UNIV OF MISSOURI COLUMBIA	40,978	2,092	593	1,021	253	33,240	589	3,153	37
37 U TEXAS SYSTEM CANCER CTR	40,369	0	1,805	0	2,191	36,373	0	0	0
38 VA POLYTECH INST & ST U	39,909	11,691	2,986	2,467	522	20,772	204	1,267	0
39 OKLAHOMA STATE UNIVERSITY	39,472	8,172I	1,686I	543I	132I	24,182I	17I	2,902I	1,838I
40 UNIVERSITY OF KENTUCKY	38,907	7,450	583	1,193	233	28,773	0	675	0
TOTAL, 1ST 40 INSTS.	2,932,421	400,096	284,500	244,029	71,348	1,651,375	56,588	145,067	79,418
41 UNIV OF ALASKA FAIRBANKS	38,218	2,022	344	21,623	258	8,497	0	2,621	2,853
42 MISSISSIPPI STATE UNIV	36,582	4,701	683	710	79	27,345	0	2,699	365
43 SUNY AT STONY BROOK	36,468	2,331	8,973	4,892	1,182	17,045	761	643	641
44 UNIV ALABAMA BIRMINGHAM	35,792	63	19	0	93	35,617	0	0	0
45 UNIV OF CAL RIVERSIDE	35,539	0	1,806	916	302	31,739	228	548	0
46 KANS ST U - AG & APP SCI	34,806	3,417	1,377	330	288	21,195	46	781	7,372
47 NEW MEXICO STATE UNIV	34,650	15,121	1,023	3,234	7,785	6,711	340	433	3
48 WASHINGTON STATE UNIV	34,257	3,601	1,274	182	1,000	24,473	10	412	3,305
49 UNIV OF MD COLLEGE PARK	34,251	4,151	18,363	2,138	2,024	5,369	517	1,689	0
50 UTAH STATE UNIVERSITY	33,822	12,402	971	3,777	114	13,196	110	1,820	1,432
TOTAL, 1ST 50 INSTS.	3,286,806	447,905	319,333	281,831	84,473	1,842,562	58,600	156,713	95,389

SEE FOOTNOTES AT END OF TABLE.

TABLE B-36. -- R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 UNIVERSITY OF VIRGINIA	33,661	6,271	3,586	2,785	606	18,471	363	1,329	250
52 U TEX HLTH SCI CTR DALLAS	32,058	0	0	0	0	32,058	0	0	0
53 UNIV OF CAL IRVINE	31,456	1,593	7,309	96	719	20,874	0	865	0
54 UNIVERSITY OF NEW MEXICO	30,977	8,430	1,879	1,063	551	15,292	200	3,562	0
55 UNIVERSITY OF OKLAHOMA	29,785	4,230	3,452	2,494	3,861	10,809	1,163	2,937	839
56 UNIV OF MASS AT AMHERST	28,887	3,318	8,154	2,870	1,539	10,370	1,286	1,350	0
57 UNIVERSITY OF CINCINNATI	28,573	2,737	1,495	169	122	23,297	13	73	667
58 SUNY AT BUFFALO	27,800	3,282	2,742	732	770	18,973	400	690	211
59 UNIV OF ARK FAYETTEVILLE	26,653	3,246	2,776	323	465	17,015	178	1,864	786
60 CLEMSON UNIVERSITY	23,552	6,326	1,113	0	401	14,380	0	1,332	0
TOTAL, 1ST 60 INSTS.	3,580,208	487,338	351,839	292,363	93,507	2,024,101	62,203	170,715	98,142
61 AUBURN UNIVERSITY	23,256	2,008	646	0	13	20,547	0	42	0
62 UNIV OF RHODE ISLAND	23,600E	3,950I	451I	15,290I	0	2,676I	0	633I	0
63 FLORIDA STATE UNIVERSITY	22,877	0	6,378	4,487	3,195	5,138	1,699	1,914	66
64 VIRGINIA COMMONWLTH UNIV	22,385	0	575	0	20	21,171	159	460	0
65 WAYNE STATE UNIVERSITY	21,542	2,300	3,670	50	242	13,909	231	518	622
66 TEMPLE UNIVERSITY	21,503	0	1,284	234	330	18,521	172	962	0
67 WEST VIRGINIA UNIVERSITY	21,080	4,642	1,046	537	160	12,195	117	2,383	0
68 UNIVERSITY OF KANSAS	20,534	2,069I	1,467I	2,797I	205I	7,580I	4,812I	1,285I	319I
69 U TEX HLTH SCI CTR S ANTO	19,341	0	0	0	0	19,341	0	0	0
70 UNIV OF MAINE ORONO	18,599	1,931	1,124	3,369	159	9,022	226	1,803	965
TOTAL, 1ST 70 INSTS.	3,794,325	504,238	368,480	319,127	97,831	2,154,201	69,619	180,715	100,114
71 UNIV OF VT & ST AGRIC COL	18,575	413	822	10	67	16,666	213	16	368
72 U TEX HLTH SCI CTR HOUSTN	18,281	0	0	141	0	17,487	0	653	0
73 U TEX MED BRNCH GALVESTON	18,272	0	0	0	0	18,272	0	0	0
74 NORTH DAKOTA STATE UNIV	18,101	37	246	13	53	16,911	244	597	0
75 UNIVERSITY OF DELAWARE	17,875	4,493	1,643	3,235	438	4,699	154	489	2,724
76 UNIV OF ILL MED CTR CHGO	17,485I	0	0	0	0	17,485I	0	0	0
77 UNIVERSITY OF IDAHO	17,272	1,616	220	862	55	13,322	0	1,180	17
78 THE OREG HLTH SCI UNIV	16,954	0	0	0	0	16,876	78	0	0
79 COL OF MED & DENT OF N J	16,123	0	0	0	0	16,123	0	0	0
80 MONTANA STATE UNIVERSITY	15,333	2,032	1,876	59	84	10,590	38	654	0
TOTAL, 1ST 80 INSTS.	3,968,596	512,829	373,287	323,447	98,528	2,302,632	70,346	184,304	103,223
81 UNIVERSITY OF WYOMING	14,622	1,432	1,792	2,873	10	7,162	178	974	201
82 UNIV OF P R-MAYAGUEZ	14,611I	160I	12I	256I	0	14,183I	0	0	0
83 INST OF AGRI UNIV OF TENN	14,545	579	0	0	0	13,138	0	828	0
84 SUNY UPSTATE MEDICAL CTR	14,476	0	0	0	0	14,476	0	0	0
85 U OF HOUSTON CENTRAL CAM	13,932	4,241	2,673	2,727	73	2,598	1,078	530	12
86 UNIV OF MD BALT PROF SCH	13,553I	0	0	0	0	13,501I	0	52I	0
87 TEXAS TECH UNIVERSITY	13,261	5,509	1,012	529	98	5,656	23	434	0
88 UNIV OF SOUTH CAROLINA	13,249	727	3,168	2,996	476	4,199	881	802	0
89 UNIV OF NEW HAMPSHIRE	13,162	1,093	3,251	1,980	55	5,169	116	275	1,223
90 UNIV OF CAL SANTA BARBARA	13,102	1,483	6,116	585	1,041	1,629	459	1,789	0
TOTAL, 1ST 90 INSTS.	4,107,109	528,053	391,311	335,393	100,281	2,384,343	73,081	189,988	104,659
91 U TENNESSEE KNOXVILLE	12,822	3,192	2,778	940	337	3,835	223	1,517	0
92 UNIV OF ILL CHICAGO CIR	12,662	3,138	2,740	726	1,032	1,346	959	2,721	0
93 SUNY DOWNSTATE MED CTR	12,510	0	0	0	0	12,510	0	0	0
94 ARIZONA STATE UNIVERSITY	11,511	3,113	3,693	1,035	437	1,137	380	1,716	0
95 UNIV OF NEVADA - RENO	11,441	713E	309E	1,058E	0	8,615E	76E	670E	0
96 TENNESSEE STATE UNIV	11,372	388I	1,764I	1,520I	590I	4,115I	448I	2,295I	252I
97 UNIV OF CAL SANTA CRUZ	11,094	0	4,794	567	279	4,958	273	223	0
98 UNIVERSITY OF OREGON MAIN	10,504	0	5,147	714	156	2,756	643	718	372
99 UNIVERSITY OF MISSISSIPPI	9,912E	441	837	58	0	8,394E	0	182	0
100 U MASS MED SCHL WORCESTER	9,886	0	0	0	0	9,886	0	0	0
TOTAL, 1ST 100 INSTS.	4,220,823	539,038	413,373	342,011	103,110	2,441,895	76,083	200,030	105,283
TOTAL, ALL OTHER INSTS.	394,133	55,700	53,737	51,237	12,114	161,253	10,009	40,677	9,406

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-37. -- FEDERALLY FINANCED R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	2,716,358	351,819	349,439	253,507	70,340	1,471,393	58,058	99,692	62,110
1 UNIV OF CAL SAN DIEGO	116,200	906	16,640	52,713	1,637	42,244	1,645	415	0
2 UNIVERSITY OF WASHINGTON	109,058	5,519	6,777	14,069	1,736	63,978	1,821	1,454	13,704
3 UNIV OF WIS-MADISON	101,019	9,396	11,271	8,991	4,827	51,944	5,465	8,812	313
4 UNIVERSITY OF MINNESOTA	83,044	6,817	7,003	1,287	1,381	61,989	2,425	1,973	169
5 UNIV OF CAL LOS ANGELES	78,222	9,835	12,200	5,299	936	45,466	3,111	1,375	0
6 UNIV OF CAL SAN FRANCISCO	75,536	0	0	0	0	75,536	0	0	0
7 UNIVERSITY OF MICHIGAN	74,656	10,967	6,648	4,484	921	39,633	3,407	8,596	0
8 UNIV OF CAL BERKELEY	67,208	15,460	16,254	2,446	2,406	24,984	1,900	3,758	0
9 UNIV OF ILL URBANA	57,247	18,707	11,359	4,211	3,574	12,888	2,006	3,385	1,117
10 UNIVERSITY OF COLORADO	53,985E	2,469	11,756	6,363	567	27,971E	2,360E	2,499	0
TOTAL, 1ST 10 INSTS.	816,175	80,076	99,908	99,863	17,985	446,633	24,140	32,267	15,303
11 PENNSYLVANIA STATE UNIV	53,023	22,481	4,525	5,100	640	18,308	218	1,346	405
12 UNIV OF TEXAS AT AUSTIN	52,606	6,451	12,818	4,342	1,686	5,455	886	2,041	18,927
13 OHIO STATE UNIVERSITY	45,990	8,987	4,229	1,384	997	21,263	405	1,411	7,314
14 UNIVERSITY OF ARIZONA	44,113	3,829	11,420	3,825	789	21,999	642	1,609	0
15 UNIV OF CAL DAVIS	42,535	2,337	2,402	251	134	37,149	93	169	0
16 PURDUE UNIVERSITY	41,949	14,452	7,039	1,086	1,625	15,445	561	1,741	0
17 UNIV OF NC AT CHAPEL HILL	39,235	0	2,944	2,062	1,229	28,536	1,868	2,596	0
18 GEORGIA INSTITUTE OF TECH	38,632	27,298	3,072	2,136	2,949	675	323	1,390	789
19 MICHIGAN STATE UNIVERSITY	38,320	1,619	9,546	674	630	23,129	596	2,126	0
20 UNIVERSITY OF IOWA	38,271	2,385	6,576	102	384	27,951	584	289	0
TOTAL, 1ST 20 INSTS.	1,250,849	169,915	164,479	120,825	29,048	646,543	30,316	46,985	42,738
21 TEXAS A & M UNIVERSITY	37,221	8,355	4,492	5,599	1,187	17,066	0	522	0
22 UNIVERSITY OF UTAH	35,019	6,100	4,174	1,064	1,104	22,011	177	389	0
23 UNIVERSITY OF PITTSBURGH	34,772	2,874	5,713	104	845	24,233	276	197	520
24 UNIVERSITY OF CONNECTICUT	33,229	3,048	2,234	716	366	24,415	1,773	677	0
25 UNIVERSITY OF FLORIDA	33,178	6,300	2,607	1,410	656	21,309	526	93	207
26 OREGON STATE UNIVERSITY	32,308	1,809	1,206	9,835	244	18,561	0	459	194
27 UNIV ALABAMA BIRMINGHAM	30,234	10	0	0	25	30,199	0	0	0
28 COLORADO STATE UNIVERSITY	29,961	5,085	2,826	3,188	481	15,522	235	2,007	617
29 INDIANA UNIVERSITY	28,663	134	9,548	295	643	14,303	1,464	810	1,464
30 UNIV OF MD COLLEGE PARK	27,521	2,950	15,433	1,689	1,588	4,099	482	1,280	0
TOTAL, 1ST 30 INSTS.	1,572,955	206,662	212,712	144,725	36,187	838,261	35,249	53,419	45,740
31 UNIVERSITY OF VIRGINIA	26,892	4,879	3,247	2,486	506	15,179	273	322	0
32 UNIV OF HAWAII-MANOA	26,616	1,079	6,881	8,559	135	6,613	129	336	2,884
33 UNIV OF CAL IRVINE	26,234	1,442	7,036	96	671	16,511	0	478	0
34 NEW MEXICO STATE UNIV	26,066	13,949	944	1,170	6,700	2,900	332	70	1
35 U TEX HLTH SCI CTR DALLAS	25,121	0	0	0	0	25,121	0	0	0
36 SUNY AT STONY BROOK	24,904	1,591	6,129	3,341	807	11,641	520	438	437
37 UNIVERSITY OF NEW MEXICO	21,968	7,016	1,455	884	262	9,973	162	2,216	0
38 UNIVERSITY OF GEORGIA	21,703	370	904	1,334	1,051	16,500	187	1,357	0
39 N C STATE UNIV AT RALEIGH	21,217	5,972I	1,215I	2,664I	454I	10,725I	35I	152I	0
40 UNIVERSITY OF CINCINNATI	20,060	2,165	1,291	114	119	16,110	0	52	209
TOTAL, 1ST 40 INSTS.	1,813,736	245,125	241,814	165,373	46,892	969,534	36,887	58,840	49,271
41 UTAH STATE UNIVERSITY	19,123	9,763	851	2,851	37	4,749	26	782	64
42 UNIV OF ALASKA FAIRBANKS	19,055	664	43	12,689	258	4,093	0	577	731
43 VIRGINIA COMMONWLTH UNIV	18,852	0	516	0	20	17,945	87	284	0
44 IOWA ST U OF SCI & TECH	18,659	3,250	1,045	387	1,301	11,132	105	837	602
45 RUTGERS THE ST UNIV OF NJ	18,643	1,881	3,641	547	1,828	5,148	1,791	3,371	436E
46 UNIV OF RHODE ISLAND	18,400E	2,080I	451I	13,791I	0	1,920I	0	158I	0
47 SUNY AT BUFFALO	18,375	2,137	1,932	577	463	12,665	318	228	55
48 LOUISIANA STATE UNIV	18,220	1,718	1,968	3,434	184	10,741	4	171	0
49 VA POLYTECH INST & ST U	17,967	6,658	1,937	1,000	450	7,171	172	579	0
50 U TEXAS SYSTEM CANCER CTR	17,560	0	999	0	1,536	15,025	0	0	0
TOTAL, 1ST 50 INSTS.	1,998,590	273,276	255,197	200,649	52,969	1,060,123	39,390	65,827	51,159

SEE FOOTNOTES AT END OF TABLE.

TABLE B-37. -- FEDERALLY FINANCED R&D EXPENDITURES AT PUBLIC UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 UNIV OF MASS AT AMHERST	16,053	1,471	5,410	1,058	1,293	5,371	1,025	425	0
52 UNIV OF MISSOURI COLUMBIA	15,604	836	398	355	218	12,420	200	1,163	14
53 TEMPLE UNIVERSITY	15,541	0	872	29	151	13,860	129	500	0
54 UNIVERSITY OF KENTUCKY	15,010	2,749	380	166	138	11,132	0	445	0
55 U TEX HLTH SCI CTR HOUSTN	14,620	0	0	37	0	13,964	0	619	0
56 UNIV OF NEBRASKA-LINCOLN	13,890	1,285	2,807	2,122	97	6,982	53	544	C
57 UNIVERSITY OF OKLAHOMA	13,523	2,162	1,568	1,370	2,019	4,449	783	993	179
58 UNIVERSITY OF KANSAS	13,422	1,462I	1,189I	316I	165I	6,477I	3,586I	227I	0I
59 U TEX HLTH SCI CTR S ANTO	13,319	0	0	0	0	13,319	0	0	0
60 WASHINGTON STATE UNIV	12,961	1,832	1,236	102	998	7,443	2	364	984
TOTAL, 1ST 60 INSTS.	2,142,533	285,073	269,057	206,204	58,048	1,155,540	45,168	71,107	52,336
61 WAYNE STATE UNIVERSITY	12,903	1,119	2,329	48	235	8,816	173	174	9
62 UNIV OF VT & ST AGRIC COL	12,889	344	615	9	67	11,585	198	4	67
63 UNIV OF ILL MED CTR CHGO	12,814I	0	0	0	0	12,814I	0	0	0
64 UNIV OF MD BALT PROF SCH	12,224I	0	0	0	0	12,172I	0	52I	0
65 UNIVERSITY OF IDAHO	12,127	1,003	149	483	55	9,588	0	849	0
66 UNIV OF CAL RIVERSIDE	11,217	0	1,562	560	54	8,543	203	295	0
67 COL OF MED & DENT OF N J	11,115	0	0	0	0	11,115	0	0	0
68 OKLAHOMA STATE UNIVERSITY	10,991	4,077I	888I	66I	95I	4,997I	17I	146I	705I
69 KANS ST U - AG & APP SCI	10,928	1,458	945	250	230	5,574	34	449	1,988
70 UNIV OF CAL SANTA BARBARA	10,633	1,014	5,639	523	596	1,362	361	1,138	0
TOTAL, 1ST 70 INSTS.	2,260,374	294,088	281,184	208,143	59,380	1,242,106	46,154	74,214	55,105
71 U TEX MED BRNCH GALVESTON	10,632	0	0	0	0	10,632	0	0	0
72 WEST VIRGINIA UNIVERSITY	10,476	2,408	615	416	39	6,105	108	785	0
73 FLORIDA STATE UNIVERSITY	10,385	0	3,008	2,867	742	2,668	815	222	63
74 U TENNESSEE KNOXVILLE	10,309	2,566	2,234	756	271	3,083	179	1,220	0
75 MISSISSIPPI STATE UNIV	9,560	2,664	302	462	3	5,462	0	667	0
76 UNIVERSITY OF DELAWARE	9,540	2,236	1,233	1,714	290	2,391	98	80	1,498
77 THE OREG HLTH SCI UNIV	9,219	0	0	0	0	9,219	0	0	0
78 CLEMSON UNIVERSITY	9,196	3,003	841	0	354	4,228	0	770	0
79 SUNY DOWNSTATE MED CTR	8,467	0	0	0	0	8,467	0	0	0
80 UNIVERSITY OF OREGON MAIN	8,263	0	4,136	545	137	2,196	564	503	182
TOTAL, 1ST 80 INSTS.	2,356,421	306,965	293,553	214,903	61,216	1,296,357	47,918	78,461	56,848
81 UNIV OF MAINE ORONO	8,149	574	398	1,576	159	3,894	226	357	965
82 US NAVAL POSTGRAD SCHOOL	7,853	1,994	702	2,224	1,079	12	307	1,535	0
83 ARIZONA STATE UNIVERSITY	7,840	1,808	2,892	890	247	976	328	699	0
84 UNIV OF ILL CHICAGO CIR	7,670	2,083	2,064	38	527	986	798	1,174	0
85 UNIV OF SOUTH CAROLINA	7,561	520	2,247	1,766	286	2,214	447	81	0
86 UNIV OF NEW HAMPSHIRE	7,558	749	2,901	1,331	55	2,170	106	210	34
87 AUBURN UNIVERSITY	7,473	1,017	466	0	13	5,938	0	39	0
88 MED UNIV OF SO CAROLINA	7,420	0	0	0	0	7,420	0	0	0
89 UNIVERSITY OF WYOMING	7,319	905	1,303	2,404	10	1,811	158	651	77
90 UNIV OF CAL SANTA CRUZ	7,240	0	1,991	457	237	4,220	184	151	0
TOTAL, 1ST 90 INSTS.	2,432,504	316,615	308,517	225,589	63,829	1,326,198	50,474	83,358	57,924
91 UNIV TENN CTR HEALTH SCI	6,995	0	0	0	0	6,995	0	0	0
92 MONTANA STATE UNIVERSITY	6,916	1,132	1,087	44	51	4,313	26	263	0
93 TENNESSEE STATE UNIV	6,830	298I	1,080I	1,064I	368I	3,095I	184I	711I	30I
94 UNIV OF ARK FAYETTEVILLE	6,827	1,054	1,948	156	121	2,829	37	367	315
95 U MASS MED SCHL WORCESTER	6,731	0	0	0	0	6,731	0	0	0
96 SUNY AT ALBANY	6,700	0	1,507	2,044	235	1,617	713	584	0
97 U OF HOUSTON CENTRAL CAM	6,659	1,829	1,567	747	31	1,768	486	219	12
98 MEDICAL COL OF GEORGIA	6,304	0	0	0	0	6,304	0	0	0
99 UNIV OF P R-MAYAGUEZ	5,624I	89I	12I	256I	0	5,267I	0	0	0
100 UNIVERSITY OF MISSISSIPPI	5,514E	228	619	8	0	4,503E	0	156	0
TOTAL, 1ST 100 INSTS.	2,497,604	321,245	316,337	229,908	64,635	1,369,620	51,920	85,658	58,281
TOTAL, ALL OTHER INSTS.	218,754	30,574	33,102	23,599	5,705	101,773	6,138	14,034	3,829

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-38. — R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	2,645,681	429,776	355,734	166,896	129,242	1,366,660	45,764	113,328	38,281
1 JOHNS HOPKINS UNIVERSITY	289,940	76,465	53,912	29,299	46,253	73,814	1,083	4,285	4,829
2 MASS INST OF TECHNOLOGY	192,462	84,109	49,094	11,971	8,765	26,191	3,559	5,310	3,463
3 STANFORD UNIVERSITY	147,941	45,083	23,133	3,237	10,213	60,363	2,544	3,368	0
4 CORNELL UNIVERSITY	145,769	22,583E	23,823E	4,082E	2,643E	83,262E	2,283E	6,912E	181E
5 COLUMBIA UNIV MAIN DIV	115,734	6,350	11,636	22,318	841	68,249	518	5,822	0
6 HARVARD UNIVERSITY	114,941E	1,703E	14,212E	6,624E	1,545E	81,515E	1,410E	5,442E	2,490E
7 UNIV OF PENNSYLVANIA	112,836	6,554	9,156	675	3,162	72,246	1,131	16,011	3,901
8 YALE UNIVERSITY	91,232	3,824	9,044	926	2,718	68,690	1,596	4,434	0
9 UNIV OF SOUTHERN CAL	87,140	22,829	3,368	6,641	2,271	46,079	2,907	3,045	0
10 UNIVERSITY OF CHICAGO	69,018	0	17,722E	2,289E	853E	45,285E	909E	1,960E	0
TOTAL, 1ST 10 INSTS.	1,367,013	269,500	215,100	88,062	79,264	625,694	17,940	56,589	14,864
11 WASHINGTON UNIVERSITY	68,049	2,838	2,715	1,049	3,825	56,523	675	424	0
12 NEW YORK UNIVERSITY	66,139	0	3,158	330	6,473	50,185	1,202	2,545	2,246
13 UNIVERSITY OF ROCHESTER	65,547	11,297	8,223	126	1,236	42,167	1,709	448	341
14 YESHIVA UNIVERSITY	52,235	0	0	0	251	51,736	0	248	0
15 UNIVERSITY OF MIAMI	51,899	970	318	16,125	187	33,737	160	14	388
16 DUKE UNIVERSITY	49,655E	1,361I	3,214I	1,431I	369I	41,384I	518I	1,378I	0
17 BAYLOR COL OF MEDICINE	48,661	0	0	0	0	48,661	0	0	0
18 ROCKEFELLER UNIVERSITY	46,172	0	3,071	0	1,120	37,643	4,338	0	0
19 NORTHWESTERN UNIVERSITY	45,810	6,713	4,460	632	361	26,675	774	883	5,312
20 CALIFORNIA INST OF TECH	44,048	8,999	17,661	7,234	2,142	7,118	0	741	153
TOTAL, 1ST 20 INSTS.	1,905,228	301,678	257,920	114,989	95,228	1,021,523	27,316	63,270	23,304
21 CASE WESTERN RESERVE UNIV	43,129	11,103	3,492	433	130	26,911	197	863	0
22 CARNEGIE-MELLON UNIV	37,316	8,794	4,090	1,739	11,434	6,300	1,360	2,550	1,049
23 PRINCETON UNIVERSITY	36,641	8,253	11,023	4,261	2,179	4,724	1,173	5,028	0
24 WOODS HOLE OCNGRPHIC INST	33,725	4,778	0	28,947	0	0	0	0	0
25 BOSTON UNIVERSITY	30,603	201	1,896	55	267	26,172	435	498E	1,079E
26 CUNY MT SINAI SCH OF MED	29,797	0	0	0	0	29,797	0	0	0
27 VANDERBILT UNIVERSITY	24,993	958	1,533	83	127	20,371	1,048	873	0
28 GEORGE WASHINGTON UNIV	23,334	3,634	675	57	2,708	10,032	68	2,108	4,052
29 EMORY UNIVERSITY	21,423	0	1,109	3	71	19,779	365	97	0
30 BROWN UNIVERSITY	21,331	4,040	3,371	2,345	2,399	7,555	558	1,063	0
TOTAL, 1ST 30 INSTS.	2,207,520	343,439	285,109	152,911	114,543	1,173,164	32,520	76,350	29,484
31 RENSSELAER POLYTECH INST	20,302	14,282	3,488	382	771	715	108	140	416
32 SYRACUSE UNIVERSITY	19,442	4,890	4,090	135	745	3,755	466	4,536	825
33 TULANE UNIVERSITY	19,271	984	576	9	272	16,292	107	1,031	0
34 GEORGETOWN UNIVERSITY	18,888	0	1,137E	0	13E	14,921E	0	281E	2,536E
35 UNIVERSITY OF DAYTON	18,612	10,944	4,026	76	1,439	138	1,590	2E	397E
36 UNIVERSITY OF DENVER	17,333	6,171	3,110	81	374	392	1,381	5,076	748
37 DARTMOUTH COLLEGE	14,525	1,531	962	230	214	11,314	143	8	123
38 LEHIGH UNIVERSITY	13,679	6,110	3,280	595	786	498	18	410	1,982
39 BRANDEIS UNIVERSITY	13,654	0	1,951	0	782	6,576	590	3,560	195
40 TUFTS UNIVERSITY	13,177I	671I	723I	0	50I	11,295I	239I	199I	0
TOTAL, 1ST 40 INSTS.	2,376,403	389,022	308,452	154,419	119,989	1,239,060	37,162	91,593	36,706
41 MEDICAL COLLEGE OF WIS	12,741I	0	0	0	0	12,741I	0	0	0
42 UNIVERSITY OF NOTRE DAME	12,472	4,535	5,616	23	137	1,675	100	19	367
43 ST JOHN'S UNIVERSITY (NY)	11,750	0	[illegible]	0	2,383	1,834	1,658	4,387	0
44 HOWARD UNIVERSITY	11,244	890	2,136	40	110	8,413	55	600	0
45 ALBANY MEDICAL COLLEGE	11,197	0	0	0	0	11,197	0	0	0
46 RUSH UNIVERSITY	10,864	0	0	0	0	10,561	303	0	0
47 RICE UNIVERSITY	9,861E	1,852I	4,700I	747I	536I	1,864I	116I	46I	0
48 THOMAS JEFFERSON UNIV	9,345	0	0	0	0	9,345	0	0	0
49 NORTHEASTERN UNIVERSITY	6,889	1,659	2,375	32	202	834	647	1,125	15
50 WAKE FOREST UNIVERSITY	6,742I	0	89I	0	0	6,423I	0	164I	66I
TOTAL, 1ST 50 INSTS.	2,479,508	397,958	323,856	155,261	123,357	1,303,947	40,041	97,934	37,154

SEE FOOTNOTES AT END OF TABLE.

TABLE B-38. -- R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 MAHNEMANN MED COL & HOSP	6,659	0	0	C	0	6,408	251	0	0
52 ST LOUIS UNIVERSITY	6,479I	40I	38I	641I	0	5,389I	109I	262I	0
53 BOSTON COLLEGE	6,151	0	3,750	1,130	0	258	62	951	0
54 NEW YORK MEDICAL COLLEGE	6,026	0	0	0	0	6,026	0	0	0
55 THE MEDICAL COL OF PENNA	5,867	0	0	0	0	5,867	0	0	0
56 INSTITUTE PAPER CHEMISTRY	5,856	3,397	1,174	454	17	814	0	0	0
57 ILLINOIS INST OF TECH	5,202	2,431	1,393	729	279	245	33	60	32
58 DREXEL UNIVERSITY	5,192	2,759	1,783	0	274	342	34	0	0
59 POLYTECHNIC INST OF N Y	5,184	3,657	1,340	0	58	0	0	41	88
60 WESLEYAN UNIVERSITY	5,179I	0	1,940I	171	81I	2,493I	358I	290I	0
TOTAL, 1ST 60 INSTS.	2,537,303	410,242	335,274	158,232	124,066	1,331,789	40,888	99,538	37,274
61 STEVENS INSTITUTE OF TECH	4,691	3,783	557	52	12	0	237	50	0
62 LOYOLA UNIV - CHICAGO	4,455	0	26	0	0	3,786	0	643	0
63 BRIGHAM YOUNG UNIVERSITY	4,375	1,381	1,529	138	20	1,115	21	171	0
64 WORCESTER POLY INSTITUTE	4,006	3,205	302	0	21	303	0	175	0
65 TEXAS COL OF OSTEO MED	3,410	0	0	0	0	3,410	0	0	0
66 CATHOLIC UNIV OF AMERICA	3,360	614	1,963	0	44	339	178	162	60
67 SOUTHERN METHODIST UNIV	3,266	724	114	634	261	431	11E	679	412E
68 CLARKSON COLLEGE OF TECH	3,228	1,550	1,456	0	212	8	0	2	0
69 OREGON GRADUATE CENTER	3,048I	0	2,217I	817I	14I	0	0	0	0
70 U HLTH SCI/CHCGO MED SCH	2,847	0	0	0	0	2,847	0	0	0
TOTAL, 1ST 70 INSTS.	2,573,989	421,499	343,438	159,873	124,650	1,344,028	41,335	101,420	37,746
71 AMERICAN UNIVERSITY	2,842	0	701	0	202	9	56	1,844	0
72 LOMA LINDA UNIVERSITY	2,484E	0	0	0	474E	1,758E	252E	0	0
73 NEW YORK INST TECHNOLOGY	2,474I	232I	53I	0	1,361I	806I	22I	0	0
74 CLARK UNIVERSITY	2,439	0	592	1,382	27	86	260	92	0
75 MEHARRY MEDICAL COLLEGE	2,247	0	0	0	0	2,247	0	0	0
76 CATHOLIC UNIV OF P R	2,066	0	784E	0	253	538E	174	317	0
77 CREIGHTON UNIVERSITY	2,044	0	8	0	0	2,034	0	2	0
78 GALLAUDET COLLEGE	2,013	0	0	0	0	959	0	1,054	0
79 WELLESLEY COLLEGE	1,905	0	86	0	16	136	0	1,667	0
80 FAIRLEIGH DICKINSON UNIV	1,696	9	93	465	0	771	167	183	8
TOTAL, 1ST 80 INSTS.	2,596,169	421,740	345,755	161,720	126,983	1,353,372	42,266	106,579	37,754
81 UNIVERSITY OF SANTA CLARA	1,533	918I	95I	304I	32I	16I	0	147I	21I
82 UNIVERSITY OF TULSA	1,513	1,166	133	81	18	0	0	115	0
83 ATLANTA UNIVERSITY	1,450	0	760I	0	62I	380I	0	248I	0
84 MERCER UNIVERSITY	1,349	0	0	0	0	1,349E	0	0	0
85 FLORIDA INST OF TECH	1,332	120	8	370	0	652	0	0	182
86 FORDHAM UNIVERSITY	1,302	0	170	0	33	191	0	875	33
87 HARVEY MUDD COLLEGE	1,286	515	385	0	258	64	0	64	0
88 WENTWORTH INST OF TECH	1,271	0	0	1,271	0	0	0	0	0
89 ROCHESTER INST TECHNOLOGY	1,266I	213I	124I	0	63I	258I	0	608I	0
90 THE WRIGHT INSTITUTE	1,171	0	0	0	0	0	1,171	0	0
TOTAL, 1ST 90 INSTS.	2,609,642	424,672	347,430	163,746	127,449	1,356,282	43,437	108,636	37,990
91 ALFRED UNIVERSITY	1,141I	1,093I	0	44I	0	4I	0	0	0
92 MARQUETTE UNIVERSITY	1,121	191	262	0	32	609	1	13	13
93 INSTITUTE OF TEXTILE TECH	984I	644I	92I	107I	141I	0	0	0	0
94 TUSKEGEE INSTITUTE	973E	256E	0	0	0	717E	0	0	0
95 POMONA COLLEGE	972I	0	388I	0	80I	350I	77I	77I	0
96 OCCIDENTAL COLLEGE	965	0	16	857	0	92	0	0	0
97 SMITH COLLEGE	959	0	52	88	6	294	50	469	0
98 CLAREMONT GRADUATE SCHOOL	932	0	0	0	96	0	1	835	0
99 NE OHIO UNIVS MED SCHOOL	904	0	0	0	0	904	0	0	0
100 MANHATTAN COLLEGE	898	820	4	0	35	32	7	0	0
TOTAL, 1ST 100 INSTS.	2,619,491	427,676	348,244	164,842	127,839	1,359,284	43,573	110,030	38,003
TOTAL, ALL OTHER INSTS.	26,190	2,100	7,490	2,054	1,403	7,376	2,191	3,298	278

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-39. -- FEDERALLY FINANCED R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	2,032,906	345,333	300,231	138,003	109,058	1,021,699	31,047	62,964	24,571
1 JOHNS HOPKINS UNIVERSITY	271,223	74,637	51,669	26,262	45,987	64,232	744	3,598	4,094
2 MASS INST OF TECHNOLOGY	157,191	65,926	42,350	11,266	7,546	21,312	3,409	3,277	2,103
3 STANFORD UNIVERSITY	120,099	38,119	19,113	2,011	8,232	48,085	1,716	2,823	0
4 COLUMBIA UNIV MAIN DIV	101,974	4,642	11,118	20,829	839	61,510	461E	2,575	0
5 CORNELL UNIVERSITY	90,538	17,291	20,149	3,641	2,221	43,327	972	2,834	103
6 HARVARD UNIVERSITY	87,051	1,289	10,763	5,017	1,170	61,736	1,068	4,122	1,886
7 UNIV OF PENNSYLVANIA	81,014	4,679	8,078	372	2,085	53,147	995	8,387	3,271
8 YALE UNIVERSITY	76,217	3,541	8,667	852	2,306	57,617	1,031	2,203	0
9 UNIVERSITY OF CHICAGO	57,600	0	15,904	2,055	749	37,217	572	1,103	0
10 WASHINGTON UNIVERSITY	55,608	2,379	2,304	974	3,776	45,408	537	230	0
TOTAL, 1ST 10 INSTS.	1,098,515	212,505	190,115	73,279	74,911	493,591	11,505	31,152	11,457
11 UNIV OF SOUTHERN CAL	55,101	17,916	2,333	4,778	1,102	26,167	1,712	1,093	0
12 UNIVERSITY OF ROCHESTER	50,233	8,932	7,311	84	1,115	31,151	789	344	307
13 NEW YORK UNIVERSITY	48,503	0	2,927	324	6,399	35,378	954	1,032	1,489
14 DUKE UNIVERSITY	47,238E	1,226I	3,092I	1,186I	322I	39,614I	518I	1,280I	0
15 YESHIVA UNIVERSITY	44,759	0	0	0	62	44,493	0	204	0
16 CALIFORNIA INST OF TECH	39,382	8,095	17,061	6,493	1,442	5,774	0	517	0
17 BAYLOR COL OF MEDICINE	35,852	0	0	0	0	35,852	0	0	0
18 UNIVERSITY OF MIAMI	34,090	538	178	10,946	135	22,170	107	11	5
19 CASE WESTERN RESERVE UNIV	34,047	8,918	2,689	387	130	21,282	193	448	0
20 NORTHWESTERN UNIVERSITY	32,728	5,573	4,009	336	358	17,454	744	388	3,866
TOTAL, 1ST 20 INSTS.	1,520,448	263,703	229,915	97,813	85,976	772,926	16,522	36,469	17,124
21 WOODS HOLE OCNGRPHIC INST	29,002	3,980	0	25,022	0	0	0	0	0
22 BOSTON UNIVERSITY	27,374	116	1,699	33	267	23,842	287	496	634
23 CARNEGIE-MELLON UNIV	27,178	7,118	3,590	522	9,222	3,056	1,142	1,971	557
24 PRINCETON UNIVERSITY	26,542	6,161	9,476	2,666	1,547	3,572	1,080	2,040	0
25 CUNY MT SINAI SCH OF MED	21,496	0	0	0	0	21,496	0	0	0
26 ROCKEFELLER UNIVERSITY	21,213	0	1,431	0	396	17,711	1,675	0	0
27 VANDERBILT UNIVERSITY	19,649	487	1,137	79	92	16,534	759	561	0
28 GEORGE WASHINGTON UNIV	19,140	3,459	217	55	2,496	8,821	59	1,157	2,876
29 BROWN UNIVERSITY	18,345	3,284	3,053	2,213	2,199	6,077	558	961	0
30 EMORY UNIVERSITY	18,115	0	934	0	66	16,623	339	53	0
TOTAL, 1ST 30 INSTS.	1,748,402	288,308	251,452	128,403	102,261	890,658	22,421	43,708	21,191
31 UNIVERSITY OF DAYTON	16,226	9,541	3,513	66	1,254	120	1,385	0	347
32 UNIVERSITY OF DENVER	12,505	4,805	2,271	59	260	250	984	3,694	182
33 DARTMOUTH COLLEGE	12,010	1,251	776	230	80	9,514	143	0	16
34 GEORGETOWN UNIVERSITY	12,004	0	859	0	0	9,749	0	233	1,163E
35 RENSSELAER POLYTECH INST	11,766	8,276	2,021	222	447	414	63	81	242E
36 UNIVERSITY OF NOTRE DAME	11,083	3,963	5,394	11	120	1,342	74	3	176
37 TUFTS UNIVERSITY	10,937I	658I	716I	0	33I	9,166I	218I	146I	0
38 TULANE UNIVERSITY	10,678	492	337	3	152	9,030	63	601	0
39 BRANDEIS UNIVERSITY	10,487	0	1,788	0	293	5,362	424	2,620	0
40 SYRACUSE UNIVERSITY	9,823	3,021	2,089	1	401	2,396	292	1,237	386
TOTAL, 1ST 40 INSTS.	1,865,921	320,315	271,216	128,995	105,301	938,001	26,067	52,323	23,703
41 HOWARD UNIVERSITY	9,178	713	997	36	104	6,868	49	411	0
42 MEDICAL COLLEGE OF WIS	7,741I	0	0	0	0	7,741I	0	0	0
43 RICE UNIVERSITY	7,560E	1,318I	3,716I	272I	444I	1,698I	87I	25I	0
44 ALBANY MEDICAL COLLEGE	7,251	0	0	0	0	7,251	0	0	0
45 RUSH UNIVERSITY	7,108	0	0	0	0	6,857	251	0	0
46 THOMAS JEFFERSON UNIV	6,982	0	0	0	0	6,982	0	0	0
47 LEHIGH UNIVERSITY	6,447	3,592	1,455	213	397	218	15	190	367
48 BOSTON COLLEGE	5,989	0	3,701	1,126	0	165	62	935	0
49 HAHNEMANN MED COL & HOSP	5,641	0	0	0	0	5,398	243	0	0
50 WAKE FOREST UNIVERSITY	5,366I	0	52I	0	0	5,150I	0	164I	0I
TOTAL, 1ST 50 INSTS.	1,935,184	325,938	281,137	130,642	106,246	986,329	26,774	54,048	24,070

SEE FOOTNOTES AT END OF TABLE.

TABLE B-39. -- FEDERALLY FINANCED R&D EXPENDITURES AT PRIVATE UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 NORTHEASTERN UNIVERSITY	5,356	1,435	1,658	28	121	727	556	818	13
52 NEW YORK MEDICAL COLLEGE	4,995	0	0	0	0	4,995	0	0	0
53 ST LOUIS UNIVERSITY	4,835I	40I	36I	569I	0	3,885I	109I	196I	0
54 ILLINOIS INST OF TECH	4,347	1,826	1,328	687	260	165	5	44	32
55 POLYTECHNIC INST OF N Y	3,979	2,807E	1,029E	0	45E	0	0	31E	67E
56 WESLEYAN UNIVERSITY	3,760I	0	1,188I	7I	23I	2,058I	334I	150I	0
57 DREXEL UNIVERSITY	3,636	1,907	1,236	0	226	236	31	0	0
58 THE MEDICAL COL OF PENNA	3,470	0	0	0	0	3,470	0	0	0
59 STEVENS INSTITUTE OF TECH	2,911	2,517	373	10	11	0	0	0	0
60 LOYOLA UNIV - CHICAGO	2,652	0	4	0	0	2,093	0	555	0
TOTAL, 1ST 60 INSTS.	1,975,125	336,470	287,989	131,943	106,932	1,003,958	27,809	55,842	24,182
61 CATHOLIC UNIV OF AMERICA	2,448	556	1,240	0	44	300	120	128	60
62 CLARKSON COLLEGE OF TECH	2,428	1,105	1,120	0	198	5	0	0	0
63 SOUTHERN METHODIST UNIV	2,223	620	24	528	260	401	11	379	0
64 MEHARRY MEDICAL COLLEGE	1,922	0I	0I	0I	0I	1,922I	0I	0I	0I
65 OREGON GRADUATE CENTER	1,916I	0	1,359I	557I	0I	0	0	0	0
66 CLARK UNIVERSITY	1,911	0	414	1,190	27	77	187	16	0
67 GALLAUDET COLLEGE	1,893	0	0	0	0	866	0	1,027	0
68 BRIGHAM YOUNG UNIVERSITY	1,892	744	873	84	0	185	0	6E	0
69 LOMA LINDA UNIVERSITY	1,866E	0	0	0	356E	1,321E	189E	0	0
70 TEXAS COL OF OSTEO MED	1,850	0	0	0	0	1,850	0	0	0
TOTAL, 1ST 70 INSTS.	1,995,474	339,495	293,019	134,302	107,817	1,010,885	28,316	57,398	24,242
71 AMERICAN UNIVERSITY	1,799	0	482	0	27	2	56	1,232	0
72 WORCESTER POLY INSTITUTE	1,612	1,076	146	0	19	283	0	88	0
73 UNIVERSITY OF SANTA CLARA	1,377	762I	95I	304I	32I	16I	0	147I	21I
74 WENTWORTH INST OF TECH	1,268	0	0	1,268	0	0	0	0	0
75 U HLTH SCI/CHCGO MED SCH	1,231	0	0	0	0	1,231	0	0	0
76 INSTITUTE PAPER CHEMISTRY	1,219	1,167	17	0	0	35	0	0	0
77 ATLANTA UNIVERSITY	1,174E	0	600I	0	62I	379I	0	133I	0
78 FORDHAM UNIVERSITY	1,112	0	149	0	33	104	0	793	33
79 TUSKEGEE INSTITUTE	973E	256E	0	0	0	717E	0	0	0
80 CREIGHTON UNIVERSITY	971	0	0	0	0	971	0	0	0
TOTAL, 1ST 80 INSTS.	2,008,210	342,756	294,508	135,874	107,990	1,014,623	28,372	59,791	24,296
81 WELLESLEY COLLEGE	957	0	59	0	0	85	0	813	0
82 POMONA COLLEGE	897I	0	317I	0	78I	348I	77I	77I	0
83 MARQUETTE UNIVERSITY	894	148	219	0	27	488	0	7	5
84 THE WRIGHT INSTITUTE	796	0	0	0	0	0	796	0	0
85 MANHATTAN COLLEGE	792	768	1	0	0	20	3	0	0
86 FAIRLEIGH DICKINSON UNIV	755	0	88	461	0	106	0	92E	8E
87 UNIVERSITY OF TULSA	743	516	78	49	18	0	0	82	0
88 EMMANUEL COLLEGE	728I	0	693I	35I	0	0	0	0	0
89 FLORIDA INST OF TECH	702	70	0	190	0	272	0	0	170E
90 AMHERST COLLEGE	681	0	412	37	0	231	0	1	0
TOTAL, 1ST 90 INSTS.	2,016,155	344,258	296,375	136,646	108,113	1,016,173	29,248	60,863	24,479
91 SETON HALL UNIVERSITY	676I	0	223I	0	0I	0I	453I	0I	0
92 ROCHESTER INST TECHNOLOGY	665I	53I	0I	0	9I	0I	0	603I	0
93 UNIVERSITY OF THE PACIFIC	659E	0	3I	0I	0	579I	5I	72I	0I
94 NOVA UNIVERSITY	624	0	0	480	9	67	68	0	0
95 WILLIAMS COLLEGE	606I	0	211I	0I	3I	108I	65I	219I	0
96 TRINITY UNIVERSITY	603	0	0	477	0	73	53	0	0
97 EASTERN VA MEDICAL SCHOOL	579	0	0	0	0	579	0	0	0
98 HARVEY MUDD COLLEGE	573	109	200	0	200	64	0	0	0
99 BRYN MAWR COLLEGE	533	0	59	90	18	1	134	231	0
100 NE OHIO UNIVS MED SCHOOL	502	0	0	0	0	502	0	0	0
TOTAL, 1ST 100 INSTS.	2,022,175	344,420	297,071	137,693	108,352	1,018,146	30,026	61,988	24,479
TOTAL, ALL OTHER INSTS.	10,731	913	3,160	310	706	3,553	1,021	976	92

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-40. -- R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	1,024,514	959,989	864,040	768,407	697,152	661,578	594,551	526,364
1 MASS INST OF TECHNOLOGY	84,109	73,421	69,576	59,143	65,928	57,654	57,399	49,056
2 JOHNS HOPKINS UNIVERSITY	76,465	63,95[illegible]	55,865	54,094E	74,637	63,014	54,772	52,888E
3 GEORGIA INSTITUTE OF TECH	50,454	45,068	39,112	29,270	27,298	24,994	22,663	17,269
4 STANFORD UNIVERSITY	45,083	41,195	33,327	25,196	38,119	36,842	29,473	22,201
5 PENNSYLVANIA STATE UNIV	30,258	28,349	25,411	22,901	22,481	20,658	18,892	17,563
6 UNIV OF ILL URBANA	24,933	23,538	20,385	18,980	18,707	17,631	14,696	14,433
7 UNIV OF SOUTHERN CAL	22,829	18,664	20,624	18,269	17,916	13,995	16,074	14,690
8 TEXAS A & M UNIVERSITY	22,770	24,026	19,844	18,988	8,355	10,784	8,698	8,249
9 CORNELL UNIVERSITY	22,583E	18,744	14,274	13,206	17,291	15,338	11,869	11,459
10 UNIV OF CAL BERKELEY	21,289	20,796	20,458	16,448	15,460	15,856	15,975	12,385
TOTAL, 1ST 10 INSTS.	400,773	357,760	318,876	276,495	306,192	276,766	250,511	220,193
11 PURDUE UNIVERSITY	20,741	23,915	19,132	17,331	14,452	15,783	14,096	12,434
12 UNIVERSITY OF MICHIGAN	17,367	17,600	15,209	19,835	10,967	11,562	9,630	11,030
13 UNIV OF WIS-MADISON	15,888	13,205	11,267	9,919	9,396	7,574	6,515	5,668
14 OHIO STATE UNIVERSITY	15,712	13,022	11,569	10,926	8,987	7,720	6,858	6,772
15 NEW MEXICO STATE UNIV	15,121	23,867	21,510	14,876	13,949	21,063	18,945	13,193
16 UNIVERSITY OF FLORIDA	14,601	13,930	15,873E	13,686	6,370	6,918	5,296E	5,842
17 RENSSELAER POLYTECH INST	14,282	13,312	10,556	7,849	8,276	7,854	6,545	5,521
18 UNIV OF TEXAS AT AUSTIN	13,507	12,846	10,362	10,517	6,451	6,830	5,121	5,423
19 UNIVERSITY OF MINNESOTA	12,782	12,001	9,285	8,726	6,817	6,882	5,338	5,172
20 UTAH STATE UNIVERSITY	12,402	7,482	6,293	5,513	9,763	4,807	4,284	4,068
TOTAL, 1ST 20 INSTS.	553,176	508,940	449,932	395,673	401,620	373,759	333,119	295,316
21 VA POLYTECH INST & ST U	11,691	11,016	9,374	7,243	6,658	6,451	5,259	4,210
22 UNIV OF CAL LOS ANGELES	11,500	9,793	7,528	6,168	9,835	8,675	6,810	5,505
23 N C STATE UNIV AT RALEIGH	11,376I	10,167	8,616	8,416	5,972I	5,185	4,137	4,011
24 UNIVERSITY OF ROCHESTER	11,297	13,880	17,285	16,764	8,932	7,608	8,889	8,168
25 CASE WESTERN RESERVE UNIV	11,103	11,016	10,048	8,676	8,918	8,766	7,804	6,939
26 UNIVERSITY OF DAYTON	10,944	12,293I	11,908	9,564	9,541	11,415I	10,792	8,338
27 IOWA ST U OF SCI & TECH	10,696	9,537	9,101	8,330	3,250	3,434	3,270	2,886
28 CALIFORNIA INST OF TECH	8,999	9,976	9,135	8,339	8,095	8,425	7,738	6,872
29 CARNEGIE-MELLON UNIV	8,794	8,285	6,707	6,409	7,118	6,854	5,150	4,880
30 UNIVERSITY OF UTAH	8,543	9,045	8,311	7,123	6,100	6,943	6,589	5,702
TOTAL, 1ST 30 INSTS.	658,119	613,948	547,945	482,705	476,039	447,515	399,577	352,827
31 UNIVERSITY OF NEW MEXICO	8,430	9,201	6,912	6,575	7,016	6,562	6,208	5,478
32 PRINCETON UNIVERSITY	8,253	7,698	6,963	6,358	6,161	6,034	5,411	4,968
33 COLORADO STATE UNIVERSITY	8,235	7,317	10,765	8,604	5,085	4,561	7,952	6,161
34 OKLAHOMA STATE UNIVERSITY	8,172I	6,600I	5,391I	4,120I	4,077I	2,846I	4,121I	1,955I
35 UNIVERSITY OF WASHINGTON	7,759	6,212	5,445	5,430	5,519	4,815	4,[illegible]38	4,274
36 UNIVERSITY OF KENTUCKY	7,450	7,223	5,683	5,056	2,749	2,713	2,348	2,205
37 NORTHWESTERN UNIVERSITY	6,713	6,323	5,145	5,170	5,573	5,356	4,575	4,444
38 UNIV OF PENNSYLVANIA	6,554	4,768	4,441	4,579	4,679	3,702	3,382	3,725
39 UNIVERSITY OF ARIZONA	6,440	6,979	6,208	5,261	3,829	3,649	3,411	3,198
40 COLUMBIA UNIV MAIN DIV	6,350	5,111	7,719	5,375	4,642	3,977	4,079	2,929
TOTAL, 1ST 40 INSTS.	732,475	681,380	613,117	539,233	525,369	491,730	445,322	392,164
41 CLEMSON UNIVERSITY	6,326	5,235	4,631	4,356	3,003	2,054	1,485	1,394
42 LOUISIANA STATE UNIV	6,300	5,864	4,365	4,130	1,718	1,415	1,023	1,200
43 UNIVERSITY OF VIRGINIA	6,271	5,686	5,629	4,673	4,879	4,987	5,085	4,148
44 UNIVERSITY OF DENVER	6,171	5,605I	4,784	5,049	4,805	4,680I	4,066	4,347
45 LEHIGH UNIVERSITY	6,110	5,039	4,488	4,568	3,592	2,874	2,747	2,477
46 UNIVERSITY OF IOWA	5,698	4,253	3,123	2,643	2,385	2,053	1,608	1,191
47 UNIVERSITY OF CONNECTICUT	5,591	5,510	4,187	4,069	3,048	3,224	2,503	2,381
48 TEXAS TECH UNIVERSITY	5,509	6,153	5,685	5,513	2,747	3,420	3,457	3,302
49 UNIV OF MISSOURI ROLLA	5,237	5,243	4,517	3,606	2,110	2,616	1,984	1,578
50 MICHIGAN TECH UNIVERSITY	5,061	4,847	4,850	4,546	2,155	2,089	2,015	2,070E
TOTAL, 1ST 50 INSTS.	790,749	734,815	659,376	582,386	555,811	521,142	471,295	416,252

SEE FOOTNOTES AT END OF TABLE.

TABLE B-40. — R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 SYRACUSE UNIVERSITY	4,890	4,161	4,373	4,063	3,021	2,391	3,117	2,688
52 WOODS HOLE OCNGRPHIC INST	4,778	4,822	3,526	3,257	3,980	4,166	3,241	3,002
53 N MEX INST MINING & TECH	4,767	5,106	5,076	3,161	2,858	3,140	3,307E	2,289E
54 MISSISSIPPI STATE UNIV	4,701	3,658	3,272	2,463	2,664	2,569	2,506	1,632
55 WEST VIRGINIA UNIVERSITY	4,642	4,529	4,877	4,618	2,408	2,377	2,634	2,598
56 UNIVERSITY OF NOTRE DAME	4,535	5,327	2,412	1,544	3,963	4,895	2,067	1,295
57 UNIVERSITY OF DELAWARE	4,493	4,092	4,610	3,302	2,236	2,115	2,554	2,152
58 UNIV OF CENTRAL FLORIDA	4,304	3,665E	4,274	676	1,064	1,310E	1,986	301
59 U OF HOUSTON CENTRAL CAM	4,241	4,099	5,587	5,015	1,829	2,573	2,191	2,118
60 UNIVERSITY OF OKLAHOMA	4,230	2,279	2,640	1,834	2,162	1,556	1,277	1,100
TOTAL, 1ST 60 INSTS.	836,330	776,553	700,023	612,319	581,996	548,234	496,175	435,427
61 UNIV OF MD COLLEGE PARK	4,151	4,683	4,083	3,519	2,950	2,419	2,292	2,137
62 BROWN UNIVERSITY	4,040	3,926	3,800	3,497	3,284	3,557	3,100	3,009
63 UNIV OF RHODE ISLAND	3,950I	3,229I	2,820I	2,611I	2,080I	2,196I	1,565I	1,449I
64 UNIVERSITY OF PITTSBURGH	3,841	4,087	3,807	2,794	2,884	3,173	2,675	1,932
65 YALE UNIVERSITY	3,824	3,492	2,517	2,510	3,541	3,232E	2,420	1,997
66 STEVENS INSTITUTE OF TECH	3,783	2,901	2,806	2,313	2,517	1,857	1,967	1,633
67 POLYTECHNIC INST OF N Y	3,657	3,214	5,671E	5,310	2,807E	3,398E	3,790E	3,549
68 GEORGE WASHINGTON UNIV	3,634	3,147	3,235	3,166	3,459	2,993	3,087	2,952
69 WASHINGTON STATE UNIV	3,601	5,059	3,560	3,486	1,832	2,403	1,626	1,938
70 UNIV OF NEBRASKA-LINCOLN	3,553	2,642	2,258	1,582	1,285	820	594	360
TOTAL, 1ST 70 INSTS.	874,364	813,533	734,580	643,107	608,635	574,282	519,291	456,383
71 OREGON STATE UNIVERSITY	3,442	3,219	2,881	2,128	1,809	1,664	1,633	1,555
72 KANS ST U - AG & APP SCI	3,417	3,646	3,193	2,604	1,458	1,511	1,347	1,087
73 INSTITUTE PAPER CHEMISTRY	3,397	3,258	1,686E	1,600	1,167	1,224	0	0
74 UNIV OF MASS AT AMHERST	3,318	2,590	1,901	2,256	1,471	1,502	1,124	1,245
75 UNIVERSITY OF COLORADO	3,307	2,949	2,273	1,849	2,469	2,242	1,632	1,387
76 SUNY AT BUFFALO	3,282	3,578	2,690	3,019	2,137	1,909	1,690	2,017
77 COLORADO SCHOOL OF MINES	3,272	2,717	2,434	1,845I	2,723	2,394	2,112	1,219I
78 UNIV OF ARK FAYETTEVILLE	3,246	5,693E	4,108E	6,712E	1,054	760E	354	1,162
79 WORCESTER POLY INSTITUTE	3,205	2,567	2,794	2,509	1,076	1,228	1,257	422
80 U TENNESSEE KNOXVILLE	3,192	5,418I	4,266I	4,266	2,566	3,677I	2,687I	2,687
TOTAL, 1ST 80 INSTS.	907,442	849,168	762,806	672,895	626,565	592,393	533,127	469,164
81 UNIV OF ILL CHICAGO CIR	3,138	2,206	1,927	2,144	2,083	1,750	1,523	1,453
82 ARIZONA STATE UNIVERSITY	3,113	2,363	1,192	1,372	1,808	1,570	806	626
83 RUTGERS THE ST UNIV OF NJ	3,079	2,526	2,317	1,877	1,881	1,578	1,166	1,050
84 UNIV OF CAL DAVIS	3,037	2,608	3,962	3,136	2,337	2,061	2,022	1,613
85 WASHINGTON UNIVERSITY	2,838	3,065	2,902	5,257	2,379	2,680	2,448	4,517
86 DREXEL UNIVERSITY	2,759	2,697	2,541	2,649	1,967	1,937	1,867	1,802
87 MICHIGAN STATE UNIVERSITY	2,754	2,606	2,363	2,247	1,619	1,266	1,033	742
88 UNIVERSITY OF CINCINNATI	2,737	2,702	2,483	2,360	2,165	1,772	1,468	1,412
89 OHIO UNIVERSITY	2,596	1,975	1,521	1,041	767	1,007	728	617
90 ILLINOIS INST OF TECH	2,431	2,340	1,149I	1,021E	1,826	1,916	768I	677E
TOTAL, 1ST 90 INSTS.	935,924	874,256	785,163	695,999	645,337	609,930	546,956	483,673
91 SUNY AT STONY BROOK	2,331	1,711	1,435	1,539	1,5[illegible]	1,322	1,137	1,219
92 WAYNE STATE UNIVERSITY	2,300	2,386	2,724	2,693	1,1[illegible]	[illegible]96	1,023	1,120
93 SAN DIEGO STATE UNIV	2,173	244	48	11	2,037	181	19	4
94 UNIVERSITY OF GEORGIA	2,136	1,688	1,517	1,464	370	163	169	116
95 UNIV OF MISSOURI COLUMBIA	2,092	1,967	1,649	1,976	836	802	695	1,028
96 UNIVERSITY OF KANSAS	2,069I	2,333I	2,088I	1,707I	1,462I	2,091I	1,816I	1,042I
97 MONTANA STATE UNIVERSITY	2,032	2,396	2,107	1,689	1,132	1,602	1,420	992
98 UNIV OF ALASKA FAIRBANKS	2,022	1,412	555	390	664	665	221	183
99 AUBURN UNIVERSITY	2,008	1,762	2,838	2,450	1,017	1,405	1,475	1,115
100 US NAVAL POSTGRAD SCHOOL	1,994	2,450	2,515	2,180	1,994	2,450	2,515	2,180
TOTAL, 1ST 100 INSTS.	957,081	892,605	802,639	712,098	657,559	621,607	557,446	492,672
TOTAL, ALL OTHER INSTS.	67,433	67,384	61,401	56,309	39,593	39,971	37,105	33,692

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-41. -- R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	ENGINEERING FIELDS						
	TOTAL	AERO/ASTRO-NAUTICAL	CHEMICAL	CIVIL	ELEC-TRICAL	MECH-ANICAL	OTHER
TOTAL, ALL INSTITUTIONS	1,024,514	60,645	83,265	108,288	224,326	141,513	406,477
1 MASS INST OF TECHNOLOGY	84,109	11,021	6,449	8,232	21,886	11,029	25,492
2 JOHNS HOPKINS UNIVERSITY	76,465	7,680	1,398	745	23,637	15,749	27,256
3 GEORGIA INSTITUTE OF TECH	50,454	2,387	2,487	14,375	18,388	4,495	8,322
4 STANFORD UNIVERSITY	45,083	3,445	3,220	2,619	19,397	4,273	12,129
5 PENNSYLVANIA STATE UNIV	30,258	587	1,444	696	1,604	1,220	24,707
6 UNIV OF ILL URBANA	24,933	526	889	2,722	3,825	1,611	15,360
7 UNIV OF SOUTHERN CAL	22,829	1,608	510	772	6,446	389	13,104
8 TEXAS A & M UNIVERSITY	22,770	927	936	2,468	455	1,048	16,936
9 CORNELL UNIVERSITY	22,583E	654	904	224	5,418	60	15,323
10 UNIV OF CAL BERKELEY	21,289	205	0	5,202	8,678	1,831	5,373
TOTAL, 1ST 10 INSTS.	400,773	29,040	18,237	38,055	109,734	41,705	164,002
11 PURDUE UNIVERSITY	20,741	882	1,067	2,149	3,981	2,926	9,736
12 UNIVERSITY OF MICHIGAN	17,367	1,046	1,271	1,452	3,296	6,294	3,808
13 UNIV OF WIS-MADISON	15,888	0	1,769	540	2,926	1,470	9,183
14 OHIO STATE UNIVERSITY	15,712	563	504	754	3,947	1,414	8,526
15 NEW MEXICO STATE UNIV	15,121	2,653	462	390	10,740	440	436
16 UNIVERSITY OF FLORIDA	14,601	896	820	2,655	2,106	2,011	6,113
17 RENSSELAER POLYTECH INST	14,282	0	577	656	3,893	2,752	6,404
18 UNIV OF TEXAS AT AUSTIN	13,507	1,629	2,477	3,462	2,210	1,768	1,961
19 UNIVERSITY OF MINNESOTA	12,782	1,237	2,274	1,121	1,192	2,011	4,947
20 UTAH STATE UNIVERSITY	12,402	0	0	572	411	183	11,236
TOTAL, 1ST 20 INSTS.	553,176	37,946	29,458	52,006	144,436	62,978	226,352
21 VA POLYTECH INST & ST U	11,691	848	570	1,578	1,881	3,097	3,717
22 UNIV OF CAL LOS ANGELES	11,500	0	2,125	208	6,513	582	2,072
23 N C STATE UNIV AT RALEIGH	11,376I	0	2,899I	1,650I	2,229I	1,797I	2,801I
24 UNIVERSITY OF ROCHESTER	11,297	0	338	0	911	8,873	1,175
25 CASE WESTERN RESERVE UNIV	11,103	0	874	339	1,414	1,659	6,817
26 UNIVERSITY OF DAYTON	10,944	3,210	28E	1	531	861	6,313E
27 IOWA ST U OF SCI & TECH	10,696	690	983	2,505	1,339	1,924	3,255
28 CALIFORNIA INST OF TECH	8,999	642I	689I	706I	2,291I	1,833I	2,838I
29 CARNEGIE-MELLON UNIV	8,794	0	708	764	2,611	1,185	3,526
30 UNIVERSITY OF UTAH	8,543	0	352	174	1,337	508	6,172
TOTAL, 1ST 30 INSTS.	658,119	43,336	39,024	59,431	165,493	85,297	265,038
31 UNIVERSITY OF NEW MEXICO	8,430	0	22	212	291	507	7,398
32 PRINCETON UNIVERSITY	8,253	5,013	988	1,499	520	0	233
33 COLORADO STATE UNIVERSITY	8,235	0	0	3,944	1,797	607	1,887
34 OKLAHOMA STATE UNIVERSITY	8,172I	369I	609I	916I	1,443I	1,153I	3,682I
35 UNIVERSITY OF WASHINGTON	7,759	1,644	971	2,163	750	800	1,431
36 UNIVERSITY OF KENTUCKY	7,450	314I	558I	430I	1,285I	1,042I	3,421I
37 NORTHWESTERN UNIVERSITY	6,713	0	933	1,238	927	750	2,865
38 UNIV OF PENNSYLVANIA	6,554	0	550	585	1,205	440	3,774
39 UNIVERSITY OF ARIZONA	6,440	0	396	386	1,093	0	4,565
40 COLUMBIA UNIV MAIN DIV	6,350	0	1,029	563	854	102	3,802
TOTAL, 1ST 40 INSTS.	732,475	50,676	45,080	72,267	175,658	90,698	298,096
41 CLEMSON UNIVERSITY	6,326	0	332	1,920	479	879	2,716
42 LOUISIANA STATE UNIV	6,300	0	1,732	990	879	678	2,021
43 UNIVERSITY OF VIRGINIA	6,271	0	219	238	922	501	4,391
44 UNIVERSITY OF DENVER	6,171	0	763	0	2,671	1,919	818
45 LEHIGH UNIVERSITY	6,110	0	58	1,032	220	1,046	3,754
46 UNIVERSITY OF IOWA	5,698	251I	417I	434I	982I	806I	2,608I
47 UNIVERSITY OF CONNECTICUT	5,591	0	1,062	615	950	839	2,125
48 TEXAS TECH UNIVERSITY	5,509	249I	413I	617I	974I	775I	2,481I
49 UNIV OF MISSOURI ROLLA	5,237	0	646	771	544	736	2,540
50 MICHIGAN TECH UNIVERSITY	5,061	0	230	721	332	1,066	2,712
TOTAL, 1ST 50 INSTS.	790,749	51,176	50,952	79,405	184,611	99,943	324,262

SEE FOOTNOTES AT END OF TABLE.

TABLE B-41. -- R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	ENGINEERING FIELDS						
	TOTAL	AERO/ASTRO-NAUTICAL	CHEMICAL	CIVIL	ELEC-TRICAL	MECH-ANICAL	OTHER
51 SYRACUSE UNIVERSITY	4,890	0	1,516	98	1,516	147	1,613
52 WOODS HOLE OCNGRPHIC INST	4,778	340I	360I	376I	1,196I	1,005I	1,501I
53 N MEX INST MINING & TECH	4,767	0	0	0	0	2,710	2,057
54 MISSISSIPPI STATE UNIV	4,701	1,433	79	275	273	137	2,504
55 WEST VIRGINIA UNIVERSITY	4,642	0	113	53	93	120	4,263
56 UNIVERSITY OF NOTRE DAME	4,535	437E	832E	749E	42E	0	2,475E
57 UNIVERSITY OF DELAWARE	4,493	0	1,850	516	432	1,121	574
58 UNIV OF CENTRAL FLORIDA	4,304	0	0	221	323	175	3,585
59 U OF HOUSTON CENTRAL CAM	4,241	0	892	1,100	749	972	528
60 UNIVERSITY OF OKLAHOMA	4,230	553	913	2,278	221	0	265
TOTAL, 1ST 60 INSTS.	836,330	53,939	57,507	85,471	189,456	106,330	343,627
61 UNIV OF MD COLLEGE PARK	4,151	286	515	1,228	1,179	849	94
62 BROWN UNIVERSITY	4,040	287I	305I	317I	1,007I	857I	1,267I
63 UNIV OF RHODE ISLAND	3,950I	179I	294I	444I	703I	557I	1,773I
64 UNIVERSITY OF PITTSBURGH	3,841	0	867	374	456	217	1,927
65 YALE UNIVERSITY	3,824	0	1,109	0	344	0	2,371
66 STEVENS INSTITUTE OF TECH	3,783	0	0	0	93	364	3,326
67 POLYTECHNIC INST OF N Y	3,657	0	117	191	2,158	510	681
68 GEORGE WASHINGTON UNIV	3,634	1,603	20	300	181	138	1,392
69 WASHINGTON STATE UNIV	3,601	0	1,411	751	481	610	348
70 UNIV OF NEBRASKA-LINCOLN	3,553	0	81	317	384	370	2,401
TOTAL, 1ST 70 INSTS.	874,364	56,294	62,226	89,393	196,442	110,802	359,207
71 OREGON STATE UNIVERSITY	3,442	0	245	1,229	332	838	798
72 KANS ST U - AG & APP SCI	3,417	0	416	206	350	116	2,329
73 INSTITUTE PAPER CHEMISTRY	3,397	0	1,144	0	0	1,913	340
74 UNIV OF MASS AT AMHERST	3,318	0	546	596	709	685	782
75 UNIVERSITY OF COLORADO	3,307	177	509	910	1,365	305	41
76 SUNY AT BUFFALO	3,282	0	686	327	1,289	293	687
77 COLORADO SCHOOL OF MINES	3,272	0	518	0	0	179	2,575
78 UNIV OF ARK FAYETTEVILLE	3,246	0	664	494	353	566	1,169
79 WORCESTER POLY INSTITUTE	3,205	0	452	131	258	2,307	57
80 U TENNESSEE KNOXVILLE	3,192	0	490	486	759	236	1,221
TOTAL, 1ST 80 INSTS.	907,442	56,471	67,896	93,772	201,857	118,240	369,206
81 UNIV OF ILL CHICAGO CIR	3,138	154I	231I	352I	575I	445I	1,381I
82 ARIZONA STATE UNIVERSITY	3,113	109	915	343	431	1,093	222
83 RUTGERS THE ST UNIV OF NJ	3,079	0	467	61	307	518	1,726
84 UNIV OF CAL DAVIS	3,037	0	386	789	436	807	619
85 WASHINGTON UNIVERSITY	2,836	0	214	76	606	372	1,570
86 DREXEL UNIVERSITY	2,759	0	46	453	212	1,162	886
87 MICHIGAN STATE UNIVERSITY	2,754	0	230	241	479	646	1,158
88 UNIVERSITY OF CINCINNATI	2,737	342E	417E	967E	714E	208E	89E
89 OHIO UNIVERSITY	2,596	0	550	49	1,412	105	480
90 ILLINOIS INST OF TECH	2,431	0	685	78	233	1,144	291
TOTAL, 1ST 90 INSTS.	935,924	57,076	72,037	97,181	207,262	124,740	377,628
91 SUNY AT STONY BROOK	2,331	0	0	0	14[illegible]	792	1,391
92 WAYNE STATE UNIVERSITY	2,300	0	122	114	284	546	1,234
93 SAN DIEGO STATE UNIV	2,173	125	0	219	983	839	7
94 UNIVERSITY OF GEORGIA	2,136	0	0	0	0	0	2,136I
95 UNIV OF MISSOURI COLUMBIA	2,092	0	41	216	210	63	1,562
96 UNIVERSITY OF KANSAS	2,069I	105I	153I	232I	381I	294I	904I
97 MONTANA STATE UNIVERSITY	2,032	0	139	864	374	327	328
98 UNIV OF ALASKA FAIRBANKS	2,022	0	0	692	0	0	1,330
99 AUBURN UNIVERSITY	2,008	206	661	183	351	214	393
100 US NAVAL POSTGRAD SCHOOL	1,994	668	96	0	659	571	0
TOTAL, 1ST 100 INSTS.	957,081	58,180	73,249	99,701	210,652	128,386	386,913
TOTAL, ALL OTHER INSTS.	67,433	2,465	10,016	8,587	13,674	13,127	19,564

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SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-42. — FEDERALLY FINANCED R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	ENGINEERING FIELDS						
	TOTAL	AERO/ASTRO-NAUTICAL	CHEMICAL	CIVIL	ELEC-TRICAL	MECH-ANICAL	OTHER
TOTAL, ALL INSTITUTIONS	697,152	48,097	49,616	59,013	173,503	96,973	269,950
1 JOHNS HOPKINS UNIVERSITY	74,637	7,680	1,361	396	23,217	15,547	26,436
2 MASS INST OF TECHNOLOGY	65,928	8,243	4,184	6,080	19,282	6,755	21,384
3 STANFORD UNIVERSITY	38,119	2,939	2,785	2,099	16,951	3,472	9,873
4 GEORGIA INSTITUTE OF TECH	27,298	1,291	1,346	7,778	9,948	2,432	4,503
5 PENNSYLVANIA STATE UNIV	22,481	569	496	138	1,431	998	18,849
6 UNIV OF ILL URBANA	18,707	389	500	1,696	3,116	921	12,085
7 UNIV OF SOUTHERN CAL	17,916	1,146	276	473	5,534	260	10,227
8 CORNELL UNIVERSITY	17,291	543	628	127	3,748	23	12,222
9 UNIV OF CAL BERKELEY	15,460	204	0	2,402	7,359	1,632	3,863
10 PURDUE UNIVERSITY	14,452	842	665	1,422	3,487	1,911	6,125
TOTAL, 1ST 10 INSTS.	312,289	23,846	12,241	22,611	94,073	33,951	125,567
11 NEW MEXICO STATE UNIV	13,949	2,653	379	209	10,264	234	210
12 UNIVERSITY OF MICHIGAN	10,967	795	1,008	1,105	2,685	3,493	1,881
13 UNIV OF CAL LOS ANGELES	9,835	0	1,709	48	5,903	565	1,610
14 UTAH STATE UNIVERSITY	9,763	0	0	426	303	75	8,959
15 UNIVERSITY OF DAYTON	9,541	2,795	0	0	462	749	5,535
16 UNIV OF WIS-MADISON	9,396	0	1,297	154	1,871	713	5,361
17 OHIO STATE UNIVERSITY	8,987	525	383	584	3,394	947	3,154
18 UNIVERSITY OF ROCHESTER	8,932	0	265	0	829	6,897	941
19 CASE WESTERN RESERVE UNIV	8,918	0	787	304	972	1,493	5,362
20 TEXAS A & M UNIVERSITY	8,355	703	180	1,956	194	730	4,592
TOTAL, 1ST 20 INSTS.	410,932	31,317	18,249	27,397	120,950	49,847	163,172
21 RENSSELAER POLYTECH INST	8,276	0	334	380	2,256	1,595	3,711
22 CALIFORNIA INST OF TECH	8,095	581I	630I	638I	2,111I	1,568I	2,567I
23 CARNEGIE-MELLON UNIV	7,118	0	500	577	2,248	1,078	2,715
24 UNIVERSITY OF NEW MEXICO	7,016	0	22	103	278	227	6,386
25 UNIVERSITY OF MINNESOTA	6,817	592	1,486	231	864	1,364	2,280
26 VA POLYTECH INST & ST U	6,658	491	270	696	953	1,976	2,272
27 UNIV OF TEXAS AT AUSTIN	6,451	1,199	1,335	875	1,426	1,083	533
28 UNIVERSITY OF FLORIDA	6,370	523	368	753	1,231	1,269	2,226
29 PRINCETON UNIVERSITY	6,161	4,184	600	935	425	0	17
30 UNIVERSITY OF UTAH	6,100	0	271	174	792	400	4,463
TOTAL, 1ST 30 INSTS.	479,994	38,887	24,065	32,759	133,534	60,407	190,342
31 N C STATE UNIV AT RALEIGH	5,972I	0	1,522I	867I	1,170I	943I	1,470I
32 NORTHWESTERN UNIVERSITY	5,573	0	550	1,019	779	708	2,517
33 UNIVERSITY OF WASHINGTON	5,519	1,415	583	1,248	519	676	1,078
34 COLORADO STATE UNIVERSITY	5,085	0	0	1,754	1,452	466	1,413
35 UNIVERSITY OF VIRGINIA	4,879	0	190	225	702	407	3,355
36 UNIVERSITY OF DENVER	4,805	0	618	0	2,139	1,451	597
37 UNIV OF PENNSYLVANIA	4,679	0	471	277	1,014	250	2,667
38 COLUMBIA UNIV MAIN DIV	4,642	0	283	530	854	64	2,911
39 OKLAHOMA STATE UNIVERSITY	4,077I	233I	301I	465I	789I	588I	1,701I
40 WOODS HOLE OCNGRPHIC INST	3,980	284I	310I	314I	1,039I	771I	1,262I
TOTAL, 1ST 40 INSTS.	529,205	40,819	28,893	39,458	143,991	66,731	209,313
41 UNIVERSITY OF NOTRE DAME	3,963	382E	727E	654E	36E	0	2,164E
42 UNIVERSITY OF ARIZONA	3,829	0	118	159	700	0	2,852
43 LEHIGH UNIVERSITY	3,592	0	15	454	95	729	2,299
44 YALE UNIVERSITY	3,541	0	1,027	0	319	0	2,195
45 GEORGE WASHINGTON UNIV	3,459	1,602	0	264	100	105	1,388
46 BROWN UNIVERSITY	3,284	236I	256I	259I	857I	636I	1,040I
47 IOWA ST U OF SCI & TECH	3,250	338	290	551	92	652	1,327
48 UNIVERSITY OF CONNECTICUT	3,048	0	581	337	523	382	1,225
49 SYRACUSE UNIVERSITY	3,021	0	920	67	938	87	1,009
50 CLEMSON UNIVERSITY	3,003	0	37	924	203	374	1,465
TOTAL, 1ST 50 INSTS.	563,195	43,377	32,864	43,127	147,854	69,696	226,277

SEE FOOTNOTES AT END OF TABLE.

TABLE B-42. -- FEDERALLY FINANCED R&D EXPENDITURES IN ENGINEERING AT UNIVERSITIES AND COLLEGES: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	ENGINEERING FIELDS						
	TOTAL	AERO/ASTRO-NAUTICAL	CHEMICAL	CIVIL	ELEC-TRICAL	MECH-ANICAL	OTHER
51 UNIV OF MD COLLEGE PARK	2,950	286	376	570	1,142	490	86
52 UNIVERSITY OF PITTSBURGH	2,884	0	578	325	219	79	1,683
53 N MEX INST MINING & TECH	2,858	0	0	0	0	2,051	807
54 POLYTECHNIC INST OF N Y	2,807E	0	90E	146E	1,656E	392E	523E
55 UNIVERSITY OF KENTUCKY	2,749	157I	203I	313I	532I	396I	1,148I
56 TEXAS TECH UNIVERSITY	2,747	157I	203I	313I	532I	396I	1,146I
57 COLORADO SCHOOL OF MINES	2,723	0	431	0	0	149	2,143
58 MISSISSIPPI STATE UNIV	2,664	306	48	79	202	124	1,905
59 U TENNESSEE KNOXVILLE	2,566	0	394	391	610	190	981
60 STEVENS INSTITUTE OF TECH	2,517	0	0	0	44	223	2,250
TOTAL, 1ST 60 INSTS.	590,660	44,283	35,187	45,264	152,791	74,186	238,949
61 UNIVERSITY OF COLORADO	2,469	168	312	706	989	255	39
62 WEST VIRGINIA UNIVERSITY	2,408	0	0	0	0	0	2,408
63 UNIVERSITY OF IOWA	2,385	135I	176I	270I	463I	345I	996I
64 WASHINGTON UNIVERSITY	2,379	0	88	65	601	350	1,275
65 UNIV OF CAL DAVIS	2,337	0	303	468	289	711	566
66 UNIVERSITY OF DELAWARE	2,236	0	1,001	315	379	261	280
67 UNIVERSITY OF CINCINNATI	2,165	342E	330E	759E	570E	96E	70E
68 UNIVERSITY OF OKLAHOMA	2,162	235	425	1,324	64	0	114
69 MICHIGAN TECH UNIVERSITY	2,155	0	88	181	194	628	1,064
70 SUNY AT BUFFALO	2,137	0	574	185	710	160	508
TOTAL, 1ST 70 INSTS.	613,493	45,163	38,484	49,537	157,050	76,990	246,269
71 UNIV OF MISSOURI ROLLA	2,110	0	450	299	115	488	758
72 UNIV OF ILL CHICAGO CIR	2,083	119I	154I	237I	404I	299I	870I
73 UNIV OF RHODE ISLAND	2,080I	117I	153I	237I	403I	300I	870I
74 SAN DIEGO STATE UNIV	2,037	117	0	161	957	802	0
75 US NAVAL POSTGRAD SCHOOL	1,994	66E	96	0	659	571	0
76 DREXEL UNIVERSITY	1,907	0	21	326	121	931	508
77 RUTGERS THE ST UNIV OF NJ	1,881	0	407	2	200	441	831
78 WASHINGTON STATE UNIV	1,832	0	1,029	140	200	351	112
79 U OF HOUSTON CENTRAL CAM	1,829	0	475	266	292	340	456
80 ILLINOIS INST OF TECH	1,826	0	471	35	233	882	205
TOTAL, 1ST 80 INSTS.	633,072	46,184	41,740	51,240	160,634	82,395	250,879
81 OREGON STATE UNIVERSITY	1,809	0	197	618	316	473	205
82 ARIZONA STATE UNIVERSITY	1,808	97	438	178	233	726	136
83 LOUISIANA STATE UNIV	1,718	0	498	151	145	331	593
84 MICHIGAN STATE UNIVERSITY	1,619	0	142	150	299	400	628
85 SUNY AT STONY BROOK	1,591	0	0	0	101	540	950
86 UNIV OF MASS AT AMHERST	1,471	0	244	261	403	318	245
87 UNIVERSITY OF KANSAS	1,462I	83I	108I	167I	283I	211I	610I
88 KANS ST U - AG & APP SCI	1,458	0	306	106	145	37	864
89 UNIV OF CAL IRVINE	1,442	0	0	0	0	0	1,442
90 NORTHEASTERN UNIVERSITY	1,435	0	0	58	1,236	140	1
TOTAL, 1ST 90 INSTS.	648,885	46,364	43,673	52,929	163,795	85,571	256,553
91 RICE UNIVERSITY	1,313I	0	292I	49I	481I	224I	272I
92 UNIVERSITY OF N DAKOTA	1,308	0	870	424	0	14	0
93 HARVARD UNIVERSITY	1,289	93I	100I	101I	337I	250I	408I
94 UNIV OF NEBRASKA-LINCOLN	1,285	0	0	16	178	73	1,018
95 DARTMOUTH COLLEGE	1,251	89I	98I	99I	327I	242I	396I
96 DUKE UNIVERSITY	1,226I	0	0	208I	189I	215I	614I
97 INSTITUTE PAPER CHEMISTRY	1,167	0	0	0	0	1,167	0
98 MONTANA STATE UNIVERSITY	1,132	0	69	499	186	196	182
99 WAYNE STATE UNIVERSITY	1,119	0	66	4	104	321	624
100 CLARKSON COLLEGE OF TECH	1,105	0	452	341	241	71	0
TOTAL, 1ST 100 INSTS.	661,085	46,546	45,620	54,670	165,838	88,344	260,067
TOTAL, ALL OTHER INSTS.	36,067	1,551	3,996	4,343	7,665	8,629	9,883

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED. DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-43. — R&D EXPENDITURES IN THE PHYSICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL							
	1982	1981	1980	1979	ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
TOTAL, ALL INSTITUTIONS	822,844	766,504	677,604	601,904	73,296	311,452	363,263	74,833
1 JOHNS HOPKINS UNIVERSITY	53,912	49,580	48,210	45,753E	185	4,721	34,131	14,875
2 MASS INST OF TECHNOLOGY	49,094	57,114	46,362	38,500	5,142	9,792	34,160	0
3 CORNELL UNIVERSITY	23,823E	19,343	17,249	20,660	1,999E	6,239E	13,177E	2,408E
4 STANFORD UNIVERSITY	23,133	19,742	17,345	18,421	0	6,634	3,541	12,958
5 UNIV OF TEXAS AT AUSTIN	21,507	18,516	18,932	16,790	6,748	4,843	9,916	0
6 UNIV OF MD COLLEGE PARK	18,363	18,500	16,888	14,341	0	4,009	11,901	2,453
7 UNIVERSITY OF ARIZONA	18,332	16,150	15,505	13,393	5,417	1,587	7,827	3,501
8 UNIV OF CAL BERKELEY	18,142	17,402	15,914	11,800	2,430	6,283	2,176	7,253
9 UNIV OF CAL SAN DIEGO	17,835	20,295	20,114	17,075	9,036	3,894	3,332	1,573
10 UNIVERSITY OF CHICAGO	17,722E	16,162E	14,501E	12,832E	452E	4,396E	11,533E	1,341E
TOTAL, 1ST 10 INSTS.	261,863	252,804	231,020	209,565	31,409	52,398	131,694	46,362
11 CALIFORNIA INST OF TECH	17,661	19,550	17,886	15,222	3,486	6,136	8,039	0
12 UNIV OF ILL URBANA	14,679	12,392	10,800	9,498	599	6,422	7,658	0
13 UNIV OF WIS-MADISON	14,490	13,390	13,135	11,159	1,270	4,567	6,641	2,012
14 HARVARD UNIVERSITY	14,212E	14,658E	13,422E	13,129E	1,090E	5,512E	6,194E	1,416E
15 UNIVERSITY OF COLORADO	13,345	13,203	12,874	10,253	6,267	3,492	3,586	0
16 UNIV OF CAL LOS ANGELES	12,576	11,285	11,063	9,774	351	5,187	6,738	300
17 MICHIGAN STATE UNIVERSITY	12,489	11,005	3,913	7,307	66	2,493	2,148	7,782
18 INDIANA UNIVERSITY	11,891	9,209	8,567	7,015	155	5,341	6,395	0
19 COLUMBIA UNIV MAIN DIV	11,636	9,108	10,404	10,568	491	4,700	1,651	4,794
20 PRINCETON UNIVERSITY	11,023	8,984	7,842	7,362	2,327	3,062	5,634	0
TOTAL, 1ST 20 INSTS.	395,865	375,588	340,926	310,852	47,511	99,310	186,378	62,666
21 UNIV OF PENNSYLVANIA	9,156	9,999	9,130	7,669	3	3,068	6,085	0
22 UNIVERSITY OF MINNESOTA	9,090	8,168	6,534	5,149	554	4,297	4,239	0
23 YALE UNIVERSITY	9,044	8,683	7,309	6,510	447	2,875	5,722	0
24 SUNY AT STONY BROOK	8,973	8,530	6,251	5,685	465	2,783	5,725	0
25 UNIV OF HAWAII-MANOA	8,756	7,569	7,100	5,564	6,735	931	1,090	0
26 UNIVERSITY OF IOWA	8,301	7,208	7,650	5,036	478	2,331	5,492	0
27 UNIVERSITY OF ROCHESTER	8,223	7,367	6,343	6,628	0	3,123	5,100	0
28 UNIV OF MASS AT AMHERST	8,154	6,404	4,328	5,155	1,657	4,364	1,942	191
29 UNIVERSITY OF WASHINGTON	8,087	6,126	5,430	4,527	439	2,276	5,372	0
30 UNIVERSITY OF MICHIGAN	7,950	9,521	6,534	4,940	445	2,064	5,441	0
TOTAL, 1ST 30 INSTS.	481,599	455,163	407,555	367,715	58,734	127,422	232,586	62,857
31 PURDUE UNIVERSITY	7,653	7,834	6,375	5,695	0	4,459	3,194	0
32 UNIV OF CAL IRVINE	7,309	6,969	4,908	3,756	0	1,661	5,591	57
33 UNIVERSITY OF PITTSBURGH	6,480	5,216	4,405	4,351	201	2,714	2,783	782
34 TEXAS A & M UNIVERSITY	6,385	5,066	5,427	4,378	0	4,521	1,864	0
35 FLORIDA STATE UNIVERSITY	6,378	6,548	5,490	4,987	0	2,959	3,419	0
36 UNIV OF CAL SANTA BARBARA	6,116	6,140	3,695	2,951	0	1,698	3,263	1,155
37 GEORGIA INSTITUTE OF TECH	5,678	5,856	5,678	5,358	0	3,327	2,351	0
38 UNIVERSITY OF NOTRE DAME	5,616	5,212	4,482	3,596	0	4,020	1,350	246
39 UNIVERSITY OF OREGON MAIN	5,147	2,902	2,484	2,250	0	2,971	2,176	0
40 PENNSYLVANIA STATE UNIV	5,102	4,656	3,991	3,043	410	3,564	891	237
TOTAL, 1ST 40 INSTS.	543,463	511,562	454,490	408,080	59,345	159,316	259,468	65,334
41 OHIO STATE UNIVERSITY	5,021	5,227	4,745	3,843	63	2,907	2,051	0
42 UNIVERSITY OF UTAH	4,923	4,428	3,858	3,461	0	3,364	1,559	0
43 UNIV OF CAL SANTA CRUZ	4,794	4,072	3,386	2,825	3,468	628	698	0
44 RUTGERS THE ST UNIV OF NJ	4,736	4,304	2,961	3,599	0	1,390	3,346	0
45 RICE UNIVERSITY	4,700I	4,476I	3,829	3,691I	1,961I	1,613I	1,126I	0
46 UNIVERSITY OF FLORIDA	4,534	3,976	3,591E	3,096	1,024	2,248	75	1,187
47 UNIV OF NEBRASKA-LINCOLN	4,489	3,106	3,334	2,948	28	3,217	1,244	0
48 NORTHWESTERN UNIVERSITY	4,460	4,318	3,630	4,369	0	3,026	1,434	0
49 LOUISIANA STATE UNIV	4,179	4,034	3,591	2,735	0	1,496	2,346	337
50 UNIVERSITY OF CONNECTICUT	4,098	3,298	2,765	2,469	0	2,049	2,049	0
TOTAL, 1ST 50 INSTS.	589,397	552,801	491,180	441,116	65,889	181,254	275,396	66,858

SEE FOOTNOTES AT END OF TABLE.

TABLE B-43. -- R&D EXPENDITURES IN THE PHYSICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL							
	1982	1981	1980	1979	ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
51 SYRACUSE UNIVERSITY	4,090	3,615	2,021	1,908	0	2,868	1,222	0
52 CARNEGIE-MELLON UNIV	4,090	4,055	3,871	3,949	0	1,941	2,149	0
53 UNIVERSITY OF DAYTON	4,026	4,672I	4,499	5,148	0	342	3,667E	17E
54 BOSTON COLLEGE	3,750	1,461	1,383	1,062	0	651	948	2,151
55 ARIZONA STATE UNIVERSITY	3,693	3,703	1,973	1,683	187	2,323	820	363
56 WAYNE STATE UNIVERSITY	3,670	2,851	2,550	2,390	0	2,656	1,014	0
57 UNIVERSITY OF VIRGINIA	3,586	3,822	2,935	2,372	226	1,778	1,582	0
58 CASE WESTERN RESERVE UNIV	3,492	3,519	3,276	2,764	190	2,185	1,117	0
59 RENSSELAER POLYTECH INST	3,488	2,941	2,387	1,246	0	2,975	513	0
60 UNIVERSITY OF OKLAHOMA	3,452	2,358	1,694	1,077	0	2,306	1,146	0
TOTAL, 1ST 60 INSTS.	626,734	585,798	517,769	464,715	66,492	201,279	289,574	69,389
61 BROWN UNIVERSITY	3,371	3,275	3,400	2,527	0	1,165	2,206	0
62 UNIV OF SOUTHERN CAL	3,368	3,362	3,373	3,081	63	2,401	904	0
63 LEHIGH UNIVERSITY	3,280	2,473	2,160	1,939	0	2,584	158	538
64 UNIV OF NEW HAMPSHIRE	3,251	2,203	2,158	1,977	2,329	274	648	0
65 COLORADO STATE UNIVERSITY	3,239	2,976	2,386	2,188	0	2,479	760	0
66 DUKE UNIVERSITY	3,214I	2,962	2,799	2,148	0	1,107I	2,107I	0
67 UNIV OF SOUTH CAROLINA	3,168	1,236I	1,098E	1,056	0	2,483	559	126
68 NEW YORK UNIVERSITY	3,158	2,803	2,601	2,244	0	1,134	2,024	0
69 UNIVERSITY OF DENVER	3,110	2,790I	2,381	2,008	0	1,278	1,832	0
70 ROCKEFELLER UNIVERSITY	3,071	3,428	3,010	2,719	0	1,227	1,844	0
TOTAL, 1ST 70 INSTS.	658,964	613,306	543,135	486,602	68,884	217,411	302,616	70,053
71 VA POLYTECH INST & ST U	2,986	2,777	2,604	2,082	0	1,740	1,246	0
72 UNIV OF TEXAS AT DALLAS	2,974	3,013	3,651	3,863	0	383	2,591	0
73 UNIV OF NC AT CHAPEL HILL	2,973	2,694	2,376	2,231	0	2,240	733	0
74 U TENNESSEE KNOXVILLE	2,778	2,212I	1,639I	1,639	0	1,464	1,314	0
75 UNIV OF ARK FAYETTEVILLE	2,776	2,442E	4,167E	1,392E	0	1,639	1,128	9
76 UNIV OF CAL DAVIS	2,759	2,394	2,573	1,603	0	1,537	1,222	0
77 SUNY AT BUFFALO	2,742	2,598	1,986	1,372	0	2,242	451	49
78 UNIV OF ILL CHICAGO CIR	2,740	2,335	1,993	1,719	0	1,243	1,497	0
79 WASHINGTON UNIVERSITY	2,715	2,370	2,359	2,320	0	894	1,821	0
80 U OF HOUSTON CENTRAL CAM	2,673	2,484	2,106	2,633	0	1,816	847	10
TOTAL, 1ST 80 INSTS.	687,080	638,625	568,589	507,456	68,884	232,609	315,466	70,121
81 CUNY CITY COLLEGE	2,593	2,320	1,702	945	0	317	2,276	0
82 NORTHEASTERN UNIVERSITY	2,375	2,146E	1,982I	1,765	0	966	1,409	0
83 OREGON GRADUATE CENTER	2,217I	2,059	1,732	1,671	0	880I	956I	381I
84 CATHOLIC UNIV OF AMERICA	1,963	1,949	1,892	1,150	0	442	1,521	0
85 UNIVERSITY OF GEORGIA	1,955	1,841	1,743	1,573	0	1,257	698	0
86 BRANDEIS UNIVERSITY	1,951	1,959	1,607	1,436	0	1,148	803	0
87 WESLEYAN UNIVERSITY	1,940I	1,784I	760E	760	208I	1,525I	207I	0
88 BOSTON UNIVERSITY	1,896	1,795	1,580	1,248	315	805	776	0
89 IOWA ST U OF SCI & TECH	1,885	1,622	1,508	1,548	0	1,462	423	0
90 UNIVERSITY OF NEW MEXICO	1,879	1,223	720	757	1,452	427	0	0
TOTAL, 1ST 90 INSTS.	707,734	657,323	583,815	520,309	70,859	241,838	324,535	70,502
91 MONTANA STATE UNIVERSITY	1,876	1,849	1,364	1,512	0	776	1,100	0
92 UNIV OF MISSOURI ROLLA	1,815	1,947	1,506	1,532	0	173	1,642	0
93 UNIV OF CAL RIVERSIDE	1,806	1,291	1,647	1,494	0	188	1,615	3
94 U TEXAS SYSTEM CANCER CTR	1,805	1,832	1,672	1,588	0	0	1,805	0
95 NORTH TEXAS STATE UNIV	1,799I	1,323	927E	887	0	1,085I	714I	0
96 UNIVERSITY OF WYOMING	1,792	1,441	1,355	1,437	0	507	897	388
97 DREXEL UNIVERSITY	1,783	2,241	1,909	878	0	1,048	735	0
98 TENNESSEE STATE UNIV	1,764I	1,602E	101I	-	59	1,289I	337I	79I
99 N C STATE UNIV AT RALEIGH	1,753I	1,551	1,034	500	0	280I	1,473I	0
100 OKLAHOMA STATE UNIVERSITY	1,686I	1,352I	1,243I	848I	0	1,020I	666I	0
TOTAL, 1ST 100 INSTS.	725,613	673,752	596,573	530,985	70,918	248,204	335,519	70,972
TOTAL, ALL OTHER INSTS.	97,231	92,752	81,031	70,919	2,378	63,248	27,744	3,861

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-44. — FEDERALLY FINANCED R&D EXPENDITURES IN THE PHYSICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL							
	1982	1981	1980	1979	ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
TOTAL, ALL INSTITUTIONS	649,670	618,612	554,485	490,680	51,726	231,627	305,906	60,409
1 JOHNS HOPKINS UNIVERSITY	51,669	48,960	47,465	45,149E	146	3,800	32,852	14,871
2 MASS INST OF TECHNOLOGY	42,350	50,879	42,074	35,365	590	9,096	32,664	0
3 CORNELL UNIVERSITY	20,149	17,162	15,405	19,263	1,402	5,437	11,348	1,962
4 STANFORD UNIVERSITY	19,113	18,626	16,723	17,268	0	5,893	3,173	10,047
5 CALIFORNIA INST OF TECH	17,061	18,736	17,011	14,117	3,368	5,809	7,884	0
6 UNIV OF CAL SAN DIEGO	16,640	19,266	19,473	16,698	8,811	3,506	3,274	1,049
7 UNIV OF CAL BERKELEY	16,254	15,556	14,627	11,012	1,825	5,691	2,093	6,645
8 UNIVERSITY OF CHICAGO	15,904	15,091	13,328	11,354	382	3,716	10,579	1,227
9 UNIV OF MD COLLEGE PARK	15,433	13,893	12,658	12,091	0	3,068	10,347	2,018
10 UNIV OF TEXAS AT AUSTIN	12,818	11,679	13,118	11,772	3,101	?,781	6,936	0
TOTAL, 1ST 10 INSTS.	227,391	229,848	211,882	194,089	19,625	48,797	121,150	37,819
11 UNIV OF CAL LOS ANGELES	12,200	10,934	10,883	9,285	345	4,978	6,685	192
12 UNIVERSITY OF COLORADO	11,756	11,046	10,742	7,681	5,854	2,755	3,147	0
13 UNIVERSITY OF ARIZONA	11,420	10,533	10,111	9,151	2,852	1,228	4,862	2,478
14 UNIV OF ILL URBANA	11,359	9,839	8,877	7,102	482	4,763	6,114	0
15 UNIV OF WIS-MADISON	11,271	10,715	10,128	8,426	929	3,404	5,517	1,421
16 COLUMBIA UNIV MAIN DIV	11,118	8,632	9,882	10,127	465	4,365	1,572	4,716
17 HARVARD UNIVERSITY	10,763	11,101	10,160	9,935	825	4,174	4,691	1,073
18 INDIANA UNIVERSITY	9,548	8,148	7,591	6,390	135	4,237	5,176	0
19 MICHIGAN STATE UNIVERSITY	9,546	8,073	2,849	4,911	51	1,832	1,637	6,026
20 PRINCETON UNIVERSITY	9,476	7,793	6,803	6,026	1,876	2,485	5,115	0
TOTAL, 1ST 20 INSTS.	335,848	326,662	299,908	273,123	33,439	83,018	165,666	53,725
21 YALE UNIVERSITY	8,667	8,254E	6,927	5,922	414	2,599	5,654	0
22 UNIV OF PENNSYLVANIA	8,078	9,333	8,108	5,498	3	2,745	5,330	0
23 UNIVERSITY OF ROCHESTER	7,511	6,366	5,258	5,564	0	2,774	4,737	0
24 PURDUE UNIVERSITY	7,039	6,800	5,817	5,216	0	3,946	3,093	0
25 UNIV OF CAL IRVINE	7,036	6,793	4,796	3,659	0	1,593	5,441	2
26 UNIVERSITY OF MINNESOTA	7,003	6,645	5,337	4,164	444	3,377	3,182	0
27 UNIV OF HAWAII-MANOA	6,881	4,696	5,655	4,377	4,897	907	1,077	0
28 UNIVERSITY OF WASHINGTON	6,777	5,981	5,161	4,356	373	1,775	4,629	0
29 UNIVERSITY OF MICHIGAN	6,648	8,217	5,832	4,267	380	1,547	4,721	0
30 UNIVERSITY OF IOWA	6,576	5,829	6,192	3,964	430	1,195	4,951	0
TOTAL, 1ST 30 INSTS.	408,064	395,576	358,991	320,110	40,380	105,476	208,481	53,727
31 SUNY AT STONY BROOK	6,129	5,957	4,737	4,413	318	1,901	3,910	0
32 UNIVERSITY OF PITTSBURGH	5,713	4,557	3,949	3,857	198	2,188	2,570	757
33 UNIV OF CAL SANTA BARBARA	5,639	5,727	3,339	2,764	0	1,480	3,034	1,125
34 UNIV OF MASS AT AMHERST	5,410	4,317	3,442	4,137	1,243	2,773	1,394	0
35 UNIVERSITY OF NOTRE DAME	5,394	4,971	4,286	3,426	0	3,866	1,282	246
36 PENNSYLVANIA STATE UNIV	4,525	3,702	3,217	2,559	402	3,222	851	50
37 TEXAS A & M UNIVERSITY	4,492	3,645	3,956	2,929	0	2,823	1,669	0
38 OHIO STATE UNIVERSITY	4,229	4,301	3,826	3,278	57	2,355	1,817	0
39 UNIVERSITY OF UTAH	4,174	3,979	3,363	3,043	0	2,858	1,316	0
40 UNIVERSITY OF OREGON MAIN	4,136	2,416	2,215	1,856	0	2,530	1,606	0
TOTAL, 1ST 40 INSTS.	457,905	439,148	395,321	352,372	42,598	131,472	227,930	55,905
41 NORTHWESTERN UNIVERSITY	4,009	4,031	3,363	4,043	0	2,711	1,298	0
42 RICE UNIVERSITY	3,716I	3,539I	3,040	3,006I	1,611I	1,028I	1,077I	0
43 BOSTON COLLEGE	3,701	1,284	1,210	856	0	628	922	2,151
44 RUTGERS THE ST UNIV OF NJ	3,641	3,401	3,025	2,843	0	1,333	2,308	0
45 CARNEGIE-MELLON UNIV	3,590	3,592	3,291	3,359	0	1,465	2,125	0
46 UNIVERSITY OF DAYTON	3,513	4,417I	4,176	4,488	0	298	3,215	0
47 UNIVERSITY OF VIRGINIA	3,247	3,549	2,691	2,049	215	1,597	1,435	0
48 DUKE UNIVERSITY	3,092I	2,710	2,523	1,955	0	1,055I	2,037I	0
49 GEORGIA INSTITUTE OF TECH	3,072	3,248	3,290	3,161	0	1,800	1,272	0
50 BROWN UNIVERSITY	3,053	2,995	3,000	2,327	0	1,037	2,016	0
TOTAL, 1ST 50 INSTS.	492,539	471,914	424,930	380,459	44,424	144,424	245,635	58,056

SEE FOOTNOTES AT END OF TABLE.

TABLE B-44. — FEDERALLY FINANCED R&D EXPENDITURES IN THE PHYSICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	PHYSICAL SCIENCES TOTAL							
	1982	1981	1980	1979	ASTRONOMY	CHEMISTRY	PHYSICS	OTHER
51 FLORIDA STATE UNIVERSITY	3,008	3,125	2,486	2,217	0	1,124	1,884	0
52 UNIV OF NC AT CHAPEL HILL	2,944	2,569	2,339	2,211	0	2,218	726	0
53 NEW YORK UNIVERSITY	2,927	2,638	2,360	1,988	0	1,002	1,925	0
54 UNIV OF NEW HAMPSHIRE	2,901	1,928	1,916	1,727	2,139	232	530	0
55 ARIZONA STATE UNIVERSITY	2,892	3,478	1,836	1,204	20	1,996	800	76
56 COLORADO STATE UNIVERSITY	2,826	2,568	2,074	1,943	0	2,230	596	0
57 UNIV OF NEBRASKA-LINCOLN	2,807	2,445	2,602	1,608	25	1,995	787	0
58 CASE WESTERN RESERVE UNIV	2,689	2,952	2,821	2,336	177	1,487	1,025	0
59 UNIVERSITY OF FLORIDA	2,607	1,815	1,987E	2,191	539	1,341	55	672
60 CUNY CITY COLLEGE	2,491	2,186	1,604	874	0	279	2,212	0
TOTAL, 1ST 60 INSTS.	520,631	497,618	446,955	398 758	47,324	158,328	256,175	58,804
61 UNIV OF CAL DAVIS	2,402	2,040	2,198	1	0	1,415	987	0
62 UNIV OF SOUTHERN CAL	2,333	2,289	2,676	2,46	21	1,717	595	0
63 WAYNE STATE UNIVERSITY	2,329	2,061	1,904	1,817	0	1,799	530	0
64 WASHINGTON UNIVERSITY	2,304	2,004	1,974	1,761	0	768	1,536	0
65 UNIVERSITY OF DENVER	2,271	2,330I	2,02	1,766	0	966	1,305	0
66 UNIV OF SOUTH CAROLINA	2,247	954I	863E	830	0	1,865	382	0
67 U TENNESSEE KNOXVILLE	2,234	2,082I	1,521I	1,521	0	1,177	1,057	0
68 UNIVERSITY OF CONNECTICUT	2,234	1,929	1,653	1,446	0	1,113	1,121	0
69 UNIV OF TEXAS AT DALLAS	2,217	2,301	2,933	3,261	0	133	2,084	0
70 SYRACUSE UNIVERSITY	2,089	1,201	1,181	1,152	0	1,278	811	0
TOTAL, 1ST 70 INSTS.	543,291	516,809	465,882	416,199	47,345	170,559	266,583	58,804
71 UNIV OF ILL CHICAGO CIR	2,064	1,849	1,499	1,209	0	838	1,226	0
72 RENSSELAER POLYTECH INST	2,021	1,696E	1,480	876	0	1,724	297	0
73 UNIV OF CAL SANTA CRUZ	1,991	1,588	1,747	1,380	862	535	594	0
74 LOUISIANA STATE UNIV	1,968	2,075	1,736	1,232	0	754	1,208	6
75 UNIV OF ARK FAYETTEVILLE	1,948	587E	949	340	0	1,115	833	0
76 VA POLYTECH INST & ST U	1,937	1,943	1,796	1,458	0	907	1,030	0
77 SUNY AT BUFFALO	1,932	1,936	1,413	995	0	1,528	359	45
78 BRANDEIS UNIVERSITY	1,788	1,922	1,536	1,365	0	1,044	744	0
79 BOSTON UNIVERSITY	1,699	1,638	1,417	1,157	315	647	737	0
80 NORTHEASTERN UNIVERSITY	1,658	1,450E	1,563I	1,378	0	819	839	0
TOTAL, 1ST 80 INSTS.	562,297	533,493	481,018	427,589	48,522	180,470	274,450	58,855
81 UNIVERSITY OF OKLAHOMA	1,568	1,052	820	546	0	1,067	501	0
82 U OF HOUSTON CENTRAL CAM	1,567	1,487	1,086	723	0	909	648	10
83 UNIV OF CAL RIVERSIDE	1,562	1,119	1,545	1,444	0	81	1,481	0
84 SUNY AT ALBANY	1,507	1,836	1,638	1,304	0	818	689	0
85 UNIVERSITY OF NEW MEXICO	1,455	782	641	513	1,068	387	0	0
86 LEHIGH UNIVERSITY	1,455	1,484	1,084	854	0	1,189	63	203
87 ROCKEFELLER UNIVERSITY	1,431	1,497	1,212	1,029	0	606	825	0
88 OREGON GRADUATE CENTER	1,359I	1,300	1,010	785	0	586I	624I	149I
89 ILLINOIS INST OF TECH	1,328	956	334I	294E	0	988	340	0
90 UNIVERSITY OF WYOMING	1,303	1,006	995	1,069	0	469	834	0
TOTAL, 1ST 90 INSTS.	576,832	546,012	491,383	436,150	49,590	187,570	280,455	59,217
91 UNIVERSITY OF CINCINNATI	1,291	841	574	724	0	1,082	209	0
92 CATHOLIC UNIV OF AMERICA	1,240	1,599	1,660	943	0	399	841	0
93 WASHINGTON STATE UNIV	1,236	1,467	1,166	1,109	0	554	682	0
94 DREXEL UNIVERSITY	1,236	1,496	1,350	787	0	628	608	0
95 UNIVERSITY OF DELAWARE	1,233	1,544	1,246	1,055	0	934	299	0
96 N C STATE UNIV AT RALEIGH	1,215I	1,055	826	347	0	195I	1,020I	0
97 OREGON STATE UNIVERSITY	1,206	1,181	984	936	0	902	304	0
98 UNIVERSITY OF KANSAS	1,189I	1,700I	1,477I	848I	0	986I	203I	0
99 WESLEYAN UNIVERSITY	1,188I	1,137I	410E	410	199I	858I	131I	0
100 VANDERBILT UNIVERSITY	1,137	991	1,058	821	580	557	0	0
TOTAL, 1ST 100 INSTS.	589,003	559,023	502,134	444,130	50,369	194,665	284,752	59,217
TOTAL, ALL OTHER INSTS.	60,667	59,589	52,321	46,550	1,359	36,962	21,154	1,192

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-45. -- R&D EXPENDITURES IN CHEMISTRY AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	311,452	285,520	244,454	206,421	231,627	216,630	189,287	156,516
1 MASS INST OF TECHNOLOGY	9,792	8,222	[illegible]764	5,324	9,096	7,572	6,311	5,021
2 STANFORD UNIVERSITY	6,634	5,564	4,788	4,159	5,893	5,337	4,609	3,775
3 UNIV OF ILL URBANA	6,422	5,239	4,261	3,963	4,763	3,847	3,424	2,696
4 UNIV OF CAL BERKELEY	6,283	6,553	6,022	3,717	5,691	6,008	5,601	3,485
5 CORNELL UNIVERSITY	6,239E	4,618	3,808	3,414	5,437	4,062	3,404	3,087
6 CALIFORNIA INST OF TECH	6,136	6,901	6,328	5,297	5,809	6,196E	5,630	4,813
7 HARVARD UNIVERSITY	5,512E	6,123E	4,797E	4,283E	4,174	4,637	3,631	3,241
8 INDIANA UNIVERSITY	5,341	3,637	3,147	2,644	4,237	3,042	2,635	2,306
9 UNIV OF CAL LOS ANGELES	5,187	4,420	4,159	3,573	4,978	4,127	4,017	3,379
10 UNIV OF TEXAS AT AUSTIN	4,843	4,779	3,970	3,373	2,781	3,017	2,564	2,282
TOTAL, 1ST 10 INSTS.	62,389	56,056	48,044	39,747	52,859	47,845	41,826	34,085
11 JOHNS HOPKINS UNIVERSITY	4,721	4,066	4,652	4,064E	3,800	3,881	4,444	3,968E
12 COLUMBIA UNIV MAIN DIV	4,700	3,564	4,437	3,531	4,365	3,471	4,054	3,202
13 UNIV OF WIS-MADISON	4,567	4,122	3,976	3,346	3,404	3,134	2,944	2,353
14 TEXAS A & M UNIVERSITY	4,521	4,069	4,097	3,715	2,823	2,793	2,945	2,361
15 PURDUE UNIVERSITY	4,459	4,600	3,596	3,438	3,946	3,715	3,151	3,087
16 UNIVERSITY OF CHICAGO	4,396E	4,139E	3,958E	3,418E	3,716	3,719	3,558	3,039
17 UNIV OF MASS AT AMHERST	4,364	3,230	1,889	2,621	2,773	2,067	1,632	1,921
18 UNIVERSITY OF MINNESOTA	4,297	4,260	2,642	2,162	3,377	3,494	2,143	1,624
19 UNIVERSITY OF NOTRE DAME	4,020	3,855	3,457	2,746	3,866	3,738	3,328	2,618
20 UNIV OF MD COLLEGE PARK	4,009	3,109	2,766	1,907	3,068	2,418	2,292	1,628
TOTAL, 1ST 20 INSTS.	106,443	95,070	83,514	70,695	87,997	80,275	72,317	59,886
21 UNIV OF CAL SAN DIEGO	3,894	4,430	4,425E	3,757E	3,506	3,933	4,375E	3,707E
22 PENNSYLVANIA STATE UNIV	3,564	3,413	2,973	2,303	3,222	2,773	2,327	1,989
23 UNIVERSITY OF COLORADO	3,492	4,047	3,332	2,544	2,755	3,146	2,605	1,942
24 UNIVERSITY OF UTAH	3,364	3,076	2,811	2,290	2,858	2,720	2,373	1,949
25 GEORGIA INSTITUTE OF TECH	3,327	3,660	3,655	3,577	1,800	2,030	2,118	2,110
26 UNIV OF NEBRASKA-LINCOLN	3,217	2,175	2,289	1,745	1,995	1,757	1,909	983
27 UNIVERSITY OF ROCHESTER	3,123	2,966	2,089	2,536	2,774	2,553	1,667	2,056
28 UNIV OF PENNSYLVANIA	3,068	3,386	3,688	2,211	2,745	3,073	3,143	1,840
29 PRINCETON UNIVERSITY	3,062	2,513	2,065	2,242	2,485	2,142	1,646	1,621
30 NORTHWESTERN UNIVERSITY	3,026	2,995	2,367	1,851	2,711	2,813	2,221	1,671
TOTAL, 1ST 30 INSTS.	139,580	127,731	113,208	95,751	114,848	107,215	96,902	79,754
31 RENSSELAER POLYTECH INST	2,975	2,286	1,551	968	1,724	1,310E	962	680E
32 UNIVERSITY OF OREGON MAIN	2,971	1,389	1,119	1,074	2,530	1,235	1,035	889
33 FLORIDA STATE UNIVERSITY	2,959	3,012	2,791	2,478	1,124	1,463	1,313	1,160
34 OHIO STATE UNIVERSITY	2,907	3,227	2,654	2,039	2,355	2,679	2,144	1,743
35 YALE UNIVERSITY	2,875	2,781	2,023	2,107	2,599	2,609E	1,886	1,750
36 SYRACUSE UNIVERSITY	2,868	2,259	764	691E	1,278	551	396	327
37 SUNY AT STONY BROOK	2,783	2,691	1,966	1,801	1,901	2,080	1,632	1,554
38 UNIVERSITY OF PITTSBURGH	2,714	2,039	1,641	1,728	2,188	1,581	1,366	1,416
39 WAYNE STATE UNIVERSITY	2,656	2,261	2,163	2,022	1,799	1,636	1,640	1,555
40 LEHIGH UNIVERSITY	2,584	1,680	1,066	787	1,189	1,063	480	248
TOTAL, 1ST 40 INSTS.	167,872	151,356	130,946	111,446	133,535	123,422	109,755	91,076
41 MICHIGAN STATE UNIVERSITY	2,493	2,178	1,638	1,491	1,832	1,541	1,157	1,045
42 UNIV OF SOUTH CAROLINA	2,483	1,087I	970E	933	1,865	902I	816E	785
43 COLORADO STATE UNIVERSITY	2,479	2,385	1,973	1,774	2,230	2,079	1,717	1,579
44 UNIV OF SOUTHERN CAL	2,401	2,345	2,313	2,181	1,717	1,639	1,773	1,731
45 UNIVERSITY OF IOWA	2,331	1,822	1,488	1,185	1,195	923	807	447
46 ARIZONA STATE UNIVERSITY	2,323	2,153	1,449	1,076	1,996	1,958	1,365	805
47 UNIVERSITY OF OKLAHOMA	2,306	1,399	1,275	869	1,067	674	617	441
48 UNIVERSITY OF WASHINGTON	2,276	1,500	1,326	921	1,775	1,404	1,117	828
49 UNIVERSITY OF FLORIDA	2,248	2,302	2,283E	1,968	1,341	1,156	1,214E	1,339
50 SUNY AT BUFFALO	2,242	2,203	1,665	1,143	1,528	1,626	1,163	817
TOTAL, 1ST 50 INSTS.	191,454	170,730	147,326	124,987	150,081	137,324	121,501	100,893

SEE FOOTNOTES AT END OF TABLE.

TABLE B-45. — R&D EXPENDITURES IN CHEMISTRY AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 UNIV OF NC AT CHAPEL HILL	2,240	2,016	1,789	1,685	2,218	1,936	1,752	1,666
52 CASE WESTERN RESERVE UNIV	2,185	2,139	1,938	1,413	1,487	1,732	1,617	1,145
53 UNIVERSITY OF MICHIGAN	2,064	2,016	2,064	1,406	1,547	1,591	1,775	1,229
54 UNIVERSITY OF CONNECTICUT	2,049	1,748	1,300	1,1[illegible]5	1,113	1,022	773	701
55 CARNEGIE-MELLON UNIV	1,941	2,225	2,075	1,957	1,465	1,768	1,515	1,403
56 U OF HOUSTON CENTRAL CAM	1,816	1,773	1,371	2,091	909	891	599	659
57 UNIVERSITY OF VIRGINIA	1,778	1,781	1,203	[illegible]13	1,597	1,655	1,114	708
58 VA POLYTECH INST & ST U	1,740	1,581	1,[illegible]13	1,241	907	1,020	1,047	875
59 UNIV OF CAL SANTA BARBARA	1,698	1,834	1,434	1,08[illegible]	1,480	1,628	1,262	979
60 UNIV OF CAL IRVINE	1,661	1,915	1,398	1,[illegible]77	1,593	1,821	1,344	1,243
TOTAL, 1ST 60 INSTS.	210,626	189,758	163,510	1[illegible],184	164,397	152,388	134,299	111,501
61 UNIV OF ARK FAYETTEVILLE	1,639	1,741E	1,6[illegible]E	1,180E	1,115	417E	370	281
62 RICE UNIVERSITY	1,613I	1,536I	1,310	1,227I	1,028I	979I	841	747I
63 UNIVERSITY OF ARIZONA	1,587	1,598	1,380	1,269	1,[illegible]28	1,084	953	860
64 UNIV OF CAL DAVIS	1,537	1,244	1,290	838	1,415	1,140	1,230	798
65 WESLEYAN UNIVERSITY	1,525I	1,395I	607E	607	858I	821I	296E	296
66 LOUISIANA STATE UNIV	1,496	1,614	1,561	1,161	754	849	873	620
67 UNIVERSITY OF NEW ORLEANS	1,477	470	521	417	858	111	278	215
68 U TENNESSEE KNOXVILLE	1,464	1,248I	929I	929	1,177	1,151I	841I	841
69 IOWA ST U OF SCI & TECH	1,462	1,272	1,159	1,288	734	651	486	733
70 RUTGERS THE ST UNIV OF NJ	1,390	1,385	1,406	991	1,333	1,351	1,310	939
TOTAL, 1ST 70 INSTS.	225,816	203,261	175,347	149,091	174,897	161,[illegible]02	141,777	117,831
71 BRIGHAM YOUNG UNIVERSITY	1,378	931I	837E	775	810	433I	569E	527
72 TENNESSEE STATE UNIV	1,289I	1,171E	70I	-	815I	740E	0	-
73 UNIVERSITY OF DENVER	1,278	1,180I	1,007	636	966	985I	656	555
74 UNIVERSITY OF GEORGIA	1,257	1,258	1,202	1,065	648	545	551	481
75 UNIVERSITY OF CINCINNATI	1,251	919	633	814	1,082	708	472	612
76 UNIV OF ILL CHICAGO CIR	1,243	854	764	705	838	628	535	449
77 UNIVERSITY OF DELAWARE	1,236	1,480	1,158	1,015	934	1,182	877	730
78 ROCKEFELLER UNIVERSITY	1,227	1,460	1,170	1,110	606	684	485	498
79 OREGON STATE UNIVERSITY	1,225	1,220	1,068	1,065	902	910	759	766
80 UNIVERSITY OF KANSAS	1,217I	1,503I	1,329I	957I	986I	1,411I	1,226I	704I
TOTAL, 1ST 80 INSTS.	238,417	215,237	184,585	157,233	183,484	169,428	148,107	123,153
81 WRIGHT STATE UNIVERSITY	1,180	1,123	971	1,107	545E	589	694	806
82 BROWN UNIVERSITY	1,165	1,208	1,200	1,036	1,037	1,063	900	876
83 BRANDEIS UNIVERSITY	1,148	1,175	832	769	1,044	1,139	791	702
84 NEW YORK UNIVERSITY	1,134	1,064	943	585	1,002	936	843	486
85 DUKE UNIVERSITY	1,107I	1,032	878	743	1,055I	924	701	624
86 NORTH TEXAS STATE UNIV	1,085I	799	528E	505	519I	366	246E	232
87 ILLINOIS INST OF TECH	1,052	691	415I	367E	988	655	318I	280E
88 DREXEL UNIVERSITY	1,048	1,165	731	323	628	599	366	292
89 OKLAHOMA STATE UNIVERSITY	1,020I	813I	769I	512I	565I	395I	572I	271I
90 CLARKSON COLLEGE OF TECH	1,019	1,135	1,157	926	706	778	719	628
TOTAL, 1ST 90 INSTS.	249,375	225,442	193,009	164,106	191,573	176,872	154,257	128,350
91 UNIVERSITY OF AKRON	1,013	833	712	548	507	362	407	379
92 HOWARD UNIVERSITY	982	1,406	1,287	756	867	1,248	1,101	629
93 NORTHEASTERN UNIVERSITY	966	659E	607I	542	819	419E	451I	398
94 SUNY COL OF ENV SCI & FOR	943I	894	640	1,404	528I	507	355	533
95 KANS ST U - AG & APP SCI	937	853	672	505	628	665	516	385
96 UNIV OF HAWAII-MANOA	931	524	622	548	907	495	571	465
97 SUNY AT ALBANY	924	1,112	739E	599E	818	1,026	670	537
98 WASHINGTON UNIVERSITY	894	709	957	741	768	597	589	601
99 CUNY HUNTER COLLEGE	888	749	0	0	684	570	0	0
100 OREGON GRADUATE CENTER	880I	821	734	640	586I	561	428	300E
TOTAL, 1ST 100 INSTS.	258,733	234,002	199,979	170,389	198,685	183,322	159,345	132,577
TOTAL, ALL OTHER INSTS.	52,719	51,518	44,475	36,032	32,942	33,308	29,942	23,939

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DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-46. — R&D EXPENDITURES IN PHYSICS AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	363,263	356,944	322,057	292,033	305,906	308,481	279,666	252,518
1 MASS INST OF TECHNOLOGY	34,160	44,113	36,635	31,429	32,664	42,658	35,540	30,344
2 JOHNS HOPKINS UNIVERSITY	34,131	29,423	27,939	26,780E	32,852	29,015	27,402	26,445E
3 CORNELL UNIVERSITY	13,177E	10,967	10,296	14,914	11,348	9,886	9,326	14,225
4 UNIV OF MD COLLEGE PARK	11,901	12,096	10,329	8,341	10,347	9,697	8,221	7,707
5 UNIVERSITY OF CHICAGO	11,533E	10,633E	9,400E	7,819E	10,579	10,062	8,719	7,129
6 UNIV OF TEXAS AT AUSTIN	9,916	7,169	9,254	8,726	6,936	5,121	7,464	6,844
7 CALIFORNIA INST OF TECH	8,039	10,283	9,385	7,760	7,884	10,174	9,211	7,142
8 UNIVERSITY OF ARIZONA	7,827	6,359	7,300	6,187	4,862	4,448	5,045	4,688
9 UNIV OF ILL URBANA	7,658	6,428	5,864	4,815	6,114	5,511	4,982	3,992
10 UNIV OF CAL LOS ANGELES	6,738	6,393	6,316	5,627	6,685	6,354	6,291	5,353
TOTAL, 1ST 10 INSTS.	145,080	143,864	132,620	122,398	130,271	132,926	122,201	113,869
11 UNIV OF WIS-MADISON	6,641	6,067	6,090	5,082	5,517	4,911	4,985	4,077
12 INDIANA UNIVERSITY	6,395	5,441	5,312	4,296	5,176	4,998	4,870	4,021
13 HARVARD UNIVERSITY	6,194E	5,996E	5,303E	5,602E	4,691	4,541	4,014	4,239
14 UNIV OF PENNSYLVANIA	6,085	6,570	5,374	5,386	5,330	6,222	4,911	3,601
15 SUNY AT STONY BROOK	5,725	5,310	3,777	3,469	3,910	3,477	2,597	2,477
16 YALE UNIVERSITY	5,722	5,620	4,831	4,215	5,654	5,401E	4,641	3,989
17 PRINCETON UNIVERSITY	5,634	4,345	4,200	3,761	5,115	3,927	3,803	3,281
18 UNIV OF CAL IRVINE	5,591	5,010	3,387	2,386	5,441	4,969	3,380	2,386
19 UNIVERSITY OF IOWA	5,492	4,775	5,669	3,541	4,951	4,514	4,954	3,236
20 UNIVERSITY OF MICHIGAN	5,441	6,895	3,976	2,912	4,721	6,068	3,599	2,475
TOTAL, 1ST 20 INSTS.	204,000	199,893	180,539	163,048	180,777	181,954	163,955	147,651
21 UNIVERSITY OF WASHINGTON	5,372	4,154	3,849	3,339	4,629	4,121	3,797	3,267
22 UNIVERSITY OF ROCHESTER	5,100	4,401	4,254	4,092	4,737	3,813	3,591	3,508
23 UNIVERSITY OF MINNESOTA	4,239	3,312	3,535	2,664	3,182	2,654	2,859	2,251
24 UNIVERSITY OF DAYTON	3,667E	4,611I	4,440	5,049E	3,215	4,359I	4,121	4,402
25 UNIVERSITY OF COLORADO	3,586	2,876	3,848	3,044	3,147	2,027	3,200	2,545
26 STANFORD UNIVERSITY	3,541	14,178	12,557	14,262	3,173	13,289	12,114	13,493
27 FLORIDA STATE UNIVERSITY	3,419	3,536	2,699	2,081	1,884	1,662	1,173	856
28 RUTGERS THE ST UNIV OF NJ	3,346	2,919	2,555	2,608	2,308	2,050	1,715	1,904
29 UNIV OF CAL SAN DIEGO	3,332	3,001	3,017E	2,561E	3,274	2,966	2,921E	2,505E
30 UNIV OF CAL SANTA BARBARA	3,263	2,996	1,713	1,619	3,034	2,835	1,698	1,606
TOTAL, 1ST 30 INSTS.	242,965	245,877	223,006	204,367	213,360	221,730	201,144	183,988
31 PURDUE UNIVERSITY	3,194	3,234	2,779	2,257	3,093	3,085	2,666	2,129
32 UNIVERSITY OF PITTSBURGH	2,783	3,062	2,753	2,549	2,570	2,865	2,575	2,367
33 UNIV OF TEXAS AT DALLAS	2,591	2,480	3,122	3,407	2,084	2,032	2,673	3,050
34 GEORGIA INSTITUTE OF TECH	2,351	2,196	2,023	1,781	1,272	1,218	1,172	1,051
35 LOUISIANA STATE UNIV	2,346	2,197	1,777	1,340	1,208	1,220	860	612
36 CUNY CITY COLLEGE	2,276	1,712	1,209	764	2,212	1,654	1,170	722
37 BROWN UNIVERSITY	2,206	2,067	1,700	1,491	2,016	1,932	1,600	1,451
38 UNIV OF CAL BERKELEY	2,176	2,655	2,832	1,727	2,093	2,597	2,732	1,648
39 UNIVERSITY OF OREGON MAIN	2,176	1,197	1,121	918	1,606	941	962	765
40 CARNEGIE-MELLON UNIV	2,149	1,830	1,796	1,992	2,125	1,824	1,776	1,956
TOTAL, 1ST 40 INSTS.	267,113	268,507	244,118	222,593	233,639	241,098	219,330	199,739
41 MICHIGAN STATE UNIVERSITY	2,148	1,948	2,161	2,612	1,637	1,448	1,595	1,309
42 DUKE UNIVERSITY	2,107I	1,930	1,921	1,405	2,037I	1,786	1,822	1,331
43 OHIO STATE UNIVERSITY	2,051	1,934	2,024	1,675	1,817	1,558	1,660	1,489
44 UNIVERSITY OF CONNECTICUT	2,049	1,550	1,465	1,284	1,121	907	880	745
45 NEW YORK UNIVERSITY	2,024	1,739	1,658	1,659	1,925	1,702	1,517	1,502
46 UNIV OF MASS AT AMHERST	1,942	1,505	1,066	1,267	1,394	1,125	905	1,108
47 TEXAS A & M UNIVERSITY	1,864	997	1,330	863	1,669	852	1,011	568
48 ROCKEFELLER UNIVERSITY	1,844	1,968	1,840	1,609	825	813	727	531
49 UNIVERSITY OF DENVER	1,832	1,610I	1,374	1,372	1,305	1,345I	1,168	1,211
50 WASHINGTON UNIVERSITY	1,821	1,661	1,402	1,579	1,536	1,407	1,385	1,160
TOTAL, 1ST 50 INSTS.	286,795	285,349	260,359	237,718	248,905	254,041	232,000	210,693

SEE FOOTNOTES AT END OF TABLE.

TABLE B-46. — R&D EXPENDITURES IN PHYSICS AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 U TEXAS SYSTEM CANCER CTR	1,805	1,832	1,672	1,588	999	1,079	953	963
52 COLUMBIA UNIV MAIN DIV	1,651	1,704	1,718	1,701	1,572	1,463	1,608	1,625
53 UNIV OF MISSOURI ROLLA	1,642	1,678	1,198	1,287	839	879	506	598
54 UNIV OF CAL RIVERSIDE	1,615	1,199	1,010	868	1,481	1,055	957	849
55 UNIVERSITY OF VIRGINIA	1,582	1,830	1,587	1,424	1,435	1,699	1,436	1,221
56 UNIVERSITY OF UTAH	1,559	1,352	1,047	1,171	1,316	1,259	990	1,094
57 CATHOLIC UNIV OF AMERICA	1,521	1,434	1,316	889	841	1,149	1,089	699
58 UNIV OF ILL CHICAGO CIR	1,497	1,481	1,229	1,014	1,226	1,221	964	760
59 N C STATE UNIV AT RALEIGH	1,473I	1,303	818	400	1,020I	886	654	287
60 NORTHWESTERN UNIVERSITY	1,434	1,323	1,263	1,254	1,298	1,218	1,142	1,160
TOTAL, 1ST 60 INSTS.	302,574	300,485	273,217	249,314	260,932	265,949	242,299	219,949
61 NORTHEASTERN UNIVERSITY	1,409	1,487E	1,375I	1,223	839	1,031E	1,112I	980
62 UNIVERSITY OF NOTRE DAME	1,350	1,357	1,025	850	1,282	1,233	958	808
63 U TENNESSEE KNOXVILLE	1,314	964I	710I	710	1,057	931I	680I	680
64 VA POLYTECH INST & ST U	1,246	1,196	992	801	1,030	923	749	583
65 UNIV OF NEBRASKA-LINCOLN	1,244	902	1,045	1,203	787	666	693	625
66 SYRACUSE UNIVERSITY	1,222	1,356	1,257	1,217	811	650	785	825
67 UNIV OF CAL DAVIS	1,222	1,150	1,283	763	987	900	968	620
68 UNIVERSITY OF OKLAHOMA	1,146	959	419	154	501	378	203	78
69 UNIV OF ARK FAYETTEVILLE	1,128	701E	429E	212E	833	170E	96	59
70 RICE UNIVERSITY	1,126I	1,072I	920	1,031I	1,077I	1,025I	880	987I
TOTAL, 1ST 70 INSTS.	314,981	311,629	282,672	257,478	270,136	273,856	249,423	226,194
71 CASE WESTERN RESERVE UNIV	1,117	1,199	1,206	1,231	1,025	1,054	1,081	1,072
72 MONTANA STATE UNIVERSITY	1,100	1,166	718	565	675	1,062	668	496
73 UNIV OF HAWAII-MANOA	1,090	1,047	999	751	1,077	1,045	999	751
74 WAYNE STATE UNIVERSITY	1,014	590	387	368	530	425	264	262
75 OREGON GRADUATE CENTER	956I	890	998	1,031	624I	596	582	485
76 BOSTON COLLEGE	948	678	759	609	922	599	677	488
77 UNIV OF SOUTHERN CAL	904	553	1,024	900	595	622	894	738
78 UNIVERSITY OF WYOMING	897	734	807	936	834	729	807	931
79 PENNSYLVANIA STATE UNIV	891	693	594	325	851	613	471	303
80 COLLEGE OF WILLIAM & MARY	863E	923	468I	468	622E	599	443I	443
TOTAL, 1ST 80 INSTS.	324,761	320,502	290,632	264,662	277,891	281,200	256,309	232,163
81 U OF HOUSTON CENTRAL CAM	847	711	735	542	648	596	487	64
82 ARIZONA STATE UNIVERSITY	820	1,240	390	292	800	1,220	359	281
83 BRANDEIS UNIVERSITY	803	784	775	667	744	783	745	663
84 MICHIGAN TECH UNIVERSITY	789	458	425	207	563	311	299	147
85 UNIV OF MAINE ORONO	779	715	693	528	352	386E	375	447
86 BOSTON UNIVERSITY	776	672	512	318	737	666	512	318
87 SUNY AT ALBANY	762	703	580E	483E	689	607	531	382
88 COLORADO STATE UNIVERSITY	760	591	413	414	596	489	357	364
89 DREXEL UNIVERSITY	735	1,076	1,178	555	608	897	984	495
90 UNIV OF NC AT CHAPEL HILL	733	678	587	546	736	633	587	545
TOTAL, 1ST 90 INSTS.	332,565	328,130	296,920	269,214	284,354	287,788	261,545	235,869
91 OHIO UNIVERSITY	721	655	485	341	426	412	293	207
92 NORTH TEXAS STATE UNIV	714I	524	399E	382	368I	260	120	113
93 UNIV OF CAL SANTA CRUZ	698	645	500	394	594	578	452	358
94 UNIVERSITY OF GEORGIA	698	583	541	508	256	261	199	172
95 EMMANUEL COLLEGE	696I	696I	696E	913I	693I	693I	693	913I
96 WASHINGTON STATE UNIV	691	566	442E	424	682	521	357	323
97 UNIV ALABAMA HUNTSVILLE	680	622	579	240	680	595	579	240
98 OKLAHOMA STATE UNIVERSITY	666I	539I	474I	336I	323I	225I	326I	155I
99 TUFTS UNIVERSITY	655I	625I	601	373I	654I	624I	600	364I
100 UNIV OF NEW HAMPSHIRE	648	619	769	349	530	440	674	243
TOTAL, 1ST 100 INSTS.	339,432	334,204	302,406	273,473	289,560	292,397	265,838	238,957
TOTAL, ALL OTHER INSTS.	23,831	22,740	19,651	18,560	16,346	16,084	13,828	13,561

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-47. -- R&D EXPENDITURES IN THE ENVIRONMENTAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	ENVIRONMENTAL SCIENCES TOTAL				ATMOS-PHERIC	EARTH SCIENCES	OCEAN-OGRAPHY	OTHER
	1982	1981	1980	1979				
TOTAL, ALL INSTITUTIONS	560,144	551,881	509,166	452,915	85,705	195,712	198,253	80,474
1 UNIV OF CAL SAN DIEGO	61,289	59,094	59,965	53,310	0	6,059	55,230	0
2 JOHNS HOPKINS UNIVERSITY	29,299	28,756	28,447	24,205E	8,562	3,948	12,248	4,541
3 WOODS HOLE OCNGRPHIC INST	28,947	29,080	25,683	24,747	2,079I	9,646I	7,511I	9,711I
4 COLUMBIA UNIV MAIN DIV	22,318	17,119	17,886	13,637	0	248	21,898	172
5 UNIV OF ALASKA FAIRBANKS	21,623	20,457	28,622	25,987	8,104	1,627	9,012	2,880
6 UNIVERSITY OF MIAMI	16,125	21,220	12,491	11,765	4,040	80	5,630	6,375
7 UNIV OF RHODE ISLAND	15,290I	15,390I	11,385I	10,541I	3,558I	5,893I	4,516I	1,323I
8 UNIVERSITY OF WASHINGTON	15,255	16,757	16,413	13,047	2,549	2,725	9,068	913
9 UNIVERSITY OF ARIZONA	14,581	12,723	12,105	10,111	0	4,726	0	9,855
10 OREGON STATE UNIVERSITY	13,899	12,650	10,176	9,024	2,072	1,733	10,094	0
TOTAL, 1ST 10 INSTS.	238,626	233,246	223,173	196,374	30,964	36,685	135,207	35,770
11 UNIV OF WIS-MADISON	13,765	13,885	13,130	11,910	7,396	3,190	2,196	983
12 UNIV OF TEXAS AT AUSTIN	13,525	12,220	13,452	10,789	0	6,371	7,154	0
13 MASS INST OF TECHNOLOGY	11,971	9,633	8,912	8,537	0	10,684	1,287	0
14 UNIV OF HAWAII-MANOA	11,742	10,793	9,720	9,001	334	9,667	559	1,182
15 UNIV OF ILL URBANA	8,991	8,640	7,405	7,160	776	6,542	0	1,673
16 PENNSYLVANIA STATE UNIV	8,152	7,98	7,181	6,180	1,038	6,494	0	620
17 CALIFORNIA INST OF TECH	7,234	7,93	7,266	6,414	514I	2,440I	1,867I	2,413I
18 UNIVERSITY OF COLORADO	7,051	6,815	5,641	3,977	2,808	3,645	139	459
19 LOUISIANA STATE UNIV	7,042	7,777	7,503	6,501	0	1,275	4,721	1,046
20 UNIV OF CAL LOS ANGELES	6,972	6,885	6,721	5,359	1,154	5,818	0	0
TOTAL, 1ST 20 INSTS.	335,071	325,809	310,104	272,20	44,984	92,811	153,130	44,146
21 TEXAS A & M UNIVERSITY	6,895	8,586	5,567	5,745	143	874	5,878	0
22 UNIV OF SOUTHERN CAL	6,641	5,858	6,601	3,284	0	989	3,283	2,369
23 HARVARD UNIVERSITY	6,624E	5,646E	5,548E	2,324E	0	6,624E	0	0
24 UNIVERSITY OF MICHIGAN	5,970	12,227	12,147	12,188	4,329	1,578	57	6
25 UNIV OF NEBRASKA-LINCOLN	5,726	4,00	4,865	5,955	767	4,959	0	0
26 DESERT RESEARCH INSTITUTE	5,514	5,755	4,85	5,484	3,410	1,869	0	235
27 SUNY AT STONY BROOK	4,892	4,811	3,90	3,096	0	1,600	3,292	0
28 FLORIDA STATE UNIVERSITY	4,487	4,070	3,594	2,610	1,446	612	1,565	864
29 PRINCETON UNIVERSITY	4,261	3,807	2,921	2,832	1,786	2,475	0	0
30 CORNELL UNIVERSITY	4,082E	3,629	3,	2,887	0E	4,082E	0E	0E
TOTAL, 1ST 30 INSTS.	390,163	384,207	362,465	318,607	56,865	118,473	167,205	47,620
31 GEORGIA INSTITUTE OF TECH	3,948	3,166	2,404	3,695	803	2,184	961	0
32 N C STATE UNIV AT RALEIGH	3,845I	3,401	3,153	2,624	0	1,256I	2,589I	0
33 UTAH STATE UNIVERSITY	3,777	6,018	4,886	3,105	2,549	1,228	0	0
34 COLORADO STATE UNIVERSITY	3,683	3,053	2,249	2,780	3,660	23	0	0
35 UNIV OF CAL BERKELEY	3,590	3,392	2,512	2,232	526	2,942	0	122
36 UNIV OF MAINE ORONO	3,369	3,129	2,826	3,041	0	932	1,739	698
37 STANFORD UNIVERSITY	3,237	2,482	2,313	2,790	0	2,444	793	0
38 UNIVERSITY OF DELAWARE	3,235	3,319	3,109	3,086	0	334	2,901	0
39 NEW MEXICO STATE UNIV	3,234	3,537	1,215	445	1,543	1,676	0	15
40 U OF MD CENTER FOR EES	3,182	3,009	3,027	2,100	0	0	2,999	183
TOTAL, 1ST 40 INSTS.	425,263	418,713	391,159	344,505	65,946	131,492	179,187	48,638
41 UNIV OF NC AT CHAPEL HILL	3,114	3,400	3,060	3,087	0	2,042	1,072	0
42 UNIV OF SOUTH CAROLINA	2,996	1,885I	1,691E	1,626	95	1,646	1,255	0
43 RUTGERS THE ST UNIV OF NJ	2,994	2,928	2,859	3,017	295	108	0	2,591
44 SUNY AT ALBANY	2,885	2,895	2,328E	2,528E	2,554	331	0	0
45 UNIVERSITY OF WYOMING	2,873	3,488	3,170	2,474	1,400	906	0	567
46 UNIV OF MASS AT AMHERST	2,870	2,944	2,524	2,734	0	2,158	167	545
47 UNIVERSITY OF KANSAS	2,797I	1,441I	1,506I	2,945I	317I	1,280I	680I	520I
48 UNIVERSITY OF VIRGINIA	2,785	2,369	1,680	1,394	1,664	34	1,032	55
49 U OF HOUSTON CENTRAL CAM	2,727	3,757	768	610	0	1,511	7	1,209
50 N MEX INST MINING & TECH	2,666	2,677	1,994	1,962	1,408	1,258	0	0
TOTAL, 1ST 50 INSTS.	453,970	446,497	412,739	366,882	73,679	142,766	183,400	54,125

SEE FOOTNOTES AT END OF TABLE.

TABLE B-47. -- R&D EXPENDITURES IN THE ENVIRONMENTAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	ENVIRONMENTAL SCIENCES TOTAL				ATMOS-PHERIC	EARTH SCIENCES	OCEAN-OGRAPHY	OTHER
	1982	1981	1980	1979				
51 UNIVERSITY OF GEORGIA	2,614	2,791	2,149	1,638	0	2,614	0	0
52 SOUTHERN ILL U-CARBONDALE	2,611	2,175	1,121	398	19	2,496	44	52
53 UNIVERSITY OF MINNESOTA	2,602	2,494	2,190	2,617	0	2,602	0	0
54 SAN JOSE STATE UNIVERSITY	2,554I	1,094	828I	704E	19I	1,341I	405I	789I
55 UNIVERSITY OF OKLAHOMA	2,494	3,489	7,462	3,117	1,668	826	0	0
56 VA POLYTECH INST & ST U	2,467	2,810	2,444	2,586	0	2,467	0	0
57 SUNY COL OF ENV SCI & FOR	2,370I	2,231	1,362	732	0	0	0	2,370I
58 BROWN UNIVERSITY	2,345	2,367	2,100	1,479	0	2,342	0	3
59 US NAVAL POSTGRAD SCHOOL	2,292	1,600	1,264	1,166	1,253	0	1,039	0
60 UNIVERSITY OF CHICAGO	2,289E	2,540E	2,159E	2,186E	162I	773I	589I	765I
TOTAL, 1ST 60 INSTS.	478,608	470,080	435,818	383,505	76,800	158,227	185,477	58,104
61 UNIV OF MD COLLEGE PARK	2,138	1,502	652	354	1,190	149	799	0
62 UNIVERSITY OF FLORIDA	2,125	1,917	541E	466	27	462	205	1,431
63 OHIO STATE UNIVERSITY	2,111	1,972	1,464	1,320	0	481	0	1,630
64 UNIV OF NEW HAMPSHIRE	1,980	2,386	1,929	1,745	0	617	244	1,119
65 UNIVERSITY OF UTAH	1,773	1,528	2,859	3,853	0	733	0	1,040
66 CARNEGIE-MELLON UNIV	1,739	1,561	1,754	1,644	0	0	0	1,739
67 UNIVERSITY OF N DAKOTA	1,697	853I	756I	703I	1,557	117	0	23
68 UNIV OF WIS-MILWAUKEE	1,564	1,461	1,549	1,303	118	219	1,212	15
69 TENNESSEE STATE UNIV	1,520I	1,381E	671	-	151I	711I	225I	569I
70 DUKE UNIVERSITY	1,431I	1,545	1,000	1,002	0	162I	1,269I	0
TOTAL, 1ST 70 INSTS.	496,686	486,184	448,389	395,895	79,707	161,878	189,431	65,670
71 CLARK UNIVERSITY	1,382	0	35	31	0	0	0	1,382
72 UNIVERSITY OF CONNECTICUT	1,313	999	1,007	1,073	0	249	1,064	0
73 WENTWORTH INST OF TECH	1,271	1,761	2,108	1,373	1,271	0	0	0
74 UNIV OF TEXAS AT DALLAS	1,262	789	711	652	0	1,262	0	0
75 SUNY COLLEGE BUFFALO	1,209I	1,202I	1,085I	962I	0	774I	147I	348I
76 PURDUE UNIVERSITY	1,207	1,328	841	776	280I	465I	358I	104I
77 UNIVERSITY OF KENTUCKY	1,193	1,262	863	638	0	942	0	251
78 MONT COL MINRL SCI & TECH	1,150	1,833	1,301	855	0	1,122	0	28
79 UNIV OF SOUTH FLORIDA	1,143	1,333	531	589	0	69	1,074	0
80 UNIV OF WIS-SUPERIOR	1,139	783	545	481	0	7	0	1,132
TOTAL, 1ST 80 INSTS.	508,955	497,484	457,416	403,325	81,258	166,708	192,074	68,915
81 S DAK SCH MINES & TECH	1,137I	1,073I	952I	952	209I	472I	314I	142I
82 UNIV ALABAMA HUNTSVILLE	1,133	1,065	659	1,049	0	0	0	1,133
83 BOSTON COLLEGE	1,130	1,201	1,264	1,039	0	35	0	1,095
84 UNIVERSITY OF NEW MEXICO	1,063	866	886	892	0	1,063	0	0
85 UNIV OF NEVADA - RENO	1,058E	921	444	64	0	1,058E	0	0
86 WASHINGTON UNIVERSITY	1,049	875	693	830	0	1,049	0	0
87 ARIZONA STATE UNIVERSITY	1,035	977	864	898	112	923	0	0
88 UNIV OF MISSOURI COLUMBIA	1,021	852	643	572	921	100	0	0
89 NORTH TEXAS STATE UNIV	980I	714	977E	935	0	38I	0	942I
90 U TENNESSEE KNOXVILLE	940	932I	689I	689	0	282	0	658
TOTAL, 1ST 90 INSTS.	519,501	506,960	465,487	411,245	82,500	171,728	192,388	72,885
91 MICHIGAN STATE UNIVERSITY	940	2,383	2,543	2,535	0	940	0	0
92 YALE UNIVERSITY	926	808	733	715	148	120	352	306
93 UNIV OF CAL RIVERSIDE	916	899	652	716	0	916	0	0
94 OLD DOMINION UNIVERSITY	880I	828I	732I	340	85I	412I	207I	176I
95 UNIV OF MISSOURI SYS OFF	876	894	953	871	795	0	0	81
96 UNIVERSITY OF IDAHO	862	1,050	801	846	0	862	0	0
97 OCCIDENTAL COLLEGE	857	1,347	0	0	0	1	856	0
98 COLORADO SCHOOL OF MINES	852	1,089	1,252	349I	0	848	0	4
99 OREGON GRADUATE CENTER	817I	763	911	814	729I	88I	0	0
100 RICE UNIVERSITY	747I	711I	603	490I	64I	202I	208I	272I
TOTAL, 1ST 100 INSTS.	528,174	517,732	474,666	418,921	84,321	176,117	194,012	73,724
TOTAL, ALL OTHER INSTS.	31,970	34,149	34,500	33,994	1,384	19,595	4,241	6,750

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-48. — FEDERALLY FINANCED R&D EXPENDITURES IN THE ENVIRONMENTAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	ENVIRONMENTAL SCIENCES TOTAL							
	1982	1981	1980	1979	ATMOS-PHERIC	EARTH SCIENCES	OCEAN-OGRAPHY	OTHER
TOTAL, ALL INSTITUTIONS	391,510	392,342	371,862	329,154	68,446	126,309	153,715	43,040
1 UNIV OF CAL SAN DIEGO	52,713	53,297	52,191	46,671	C	3,865	48,848	0
2 JOHNS HOPKINS UNIVERSITY	26,362	27,539	26,856	23,383E	8,135	1,941	12,033	4,153
3 WOODS HOLE OCNGRPHIC INST	25,022	24,574	21,801	21,712	1,702I	8,762I	6,357I	7,201I
4 COLUMBIA UNIV MAIN DIV	20,829	14,762	17,638	13,216	0	226	20,603	0
5 UNIVERSITY OF WASHINGTON	14,069	14,919	14,962	11,755	2,341	2,233	8,722	773
6 UNIV OF RHODE ISLAND	13,791I	14,562I	10,379I	9,610I	3,414I	5,190I	4,164I	1,023I
7 UNIV OF ALASKA FAIRBANKS	12,689	12,550	20,997	20,165	5,894	420	5,718	657
8 MASS INST OF TECHNOLOGY	11,266	9,103	8,693	8,247	0	10,028	1,238	0
9 UNIVERSITY OF MIAMI	10,946	13,874	8,336	8,926	3,548	76	3,966	3,356
10 OREGON STATE UNIVERSITY	9,835	9,229	7,924	7,301	1,895	890	7,050	0
TOTAL, 1ST 10 INSTS.	197,422	194,408	189,677	171,496	26,929	33,631	118,699	18,163
11 UNIV OF WIS-MADISON	8,931	8,495	8,528	7,851	6,828	1,298	724	141
12 UNIV OF HAWAII-MANOA	8,559	7,930	7,320	6,510	278	7,344	551	386
13 CALIFORNIA INST OF TECH	6,493	6,916	6,341	5,928	462I	2,274I	1,650I	2,127I
14 UNIVERSITY OF COLORADO	6,363	6,070	4,781	3,196	2,674	3,128	133	428
15 TEXAS A & M UNIVERSITY	5,599	6,649	4,961	4,958	105	578	4,916	0
16 UNIV OF CAL LOS ANGELES	5,299	5,316	5,312	4,213	1,102	4,197	0	0
17 PENNSYLVANIA STATE UNIV	5,100	5,099	4,515	3,765	891	3,638	0	571
18 HARVARD UNIVERSITY	5,017	4,276	4,199	1,753	0	5,017	0	0
19 UNIV OF SOUTHERN CAL	4,778	4,223	4,301	1,946	0	651	2,415	1,712
20 UNIVERSITY OF MICHIGAN	4,484	7,994	8,657	8,178	3,788	639	52	5
TOTAL, 1ST 20 INSTS.	258,105	257,376	248,593	219,784	43,037	62,395	129,140	23,533
21 UNIV OF TEXAS AT AUSTIN	4,342	4,966	5,627	4,425	0	2,867	1,475	0
22 UNIV OF ILL URBANA	4,211	4,698	3,927	4,005	605	2,921	0	685
23 UNIVERSITY OF ARIZONA	3,825	3,775	3,787	3,812	0	2,477	0	1,348
24 CORNELL UNIVERSITY	3,641	3,499	3,268	2,886	0E	3,641	0E	0E
25 LOUISIANA STATE UNIV	3,434	5,162	4,921	3,706	0	191	2,803	440
26 SUNY AT STONY BROOK	3,341	3,052	2,676	2,125	0	1,093	2,248	0
27 COLORADO STATE UNIVERSITY	3,188	2,905	2,071	2,354	3,175	13	0	0
28 FLORIDA STATE UNIVERSITY	2,867	2,369	2,090	1,518	1,218	333	869	427
29 UTAH STATE UNIVERSITY	2,851	5,355	4,245	2,738	2,496	355	0	0
30 DESERT RESEARCH INSTITUTE	2,723	2,686	2,381	2,417	1,156	1,534	0	33
TOTAL, 1ST 30 INSTS.	292,528	295,843	283,585	249,630	51,687	77,820	136,555	26,466
31 PRINCETON UNIVERSITY	2,666	2,736	2,020	1,929	1,298	1,368	0	0
32 N C STATE UNIV AT RALEIGH	2,664I	2,312	1,521	1,015	0	870I	1,794I	0
33 UNIVERSITY OF VIRGINIA	2,486	2,000	1,404	1,193	1,386	34	1,032	34
34 UNIV OF CAL BERKELEY	2,446	2,350	1,916	1,751	210	2,234	0	2
35 UNIVERSITY OF WYOMING	2,404	2,647	2,436	2,056	1,326	804	0	274
36 US NAVAL POSTGRAD SCHOOL	2,224	1,584	1,196	1,124	1,253	0	971	0
37 BROWN UNIVERSITY	2,213	2,225	1,900	1,134	0	2,210	0	3
38 GEORGIA INSTITUTE OF TECH	2,136	1,756	1,393	2,180	434	1,182	520	0
39 UNIV OF NEBRASKA-LINCOLN	2,122	1,475	1,716	1,881	328	1,794	0	0
40 UNIV OF NC AT CHAPEL HILL	2,062	1,947	1,761	1,623	0	1,647	415	0
TOTAL, 1ST 40 INSTS.	315,951	316,875	300,848	265,716	57,922	89,963	141,287	26,779
41 UNIVERSITY OF CHICAGO	2,055	2,299	1,969	1,970	140I	719I	522I	674I
42 SUNY AT ALBANY	2,044	1,964	1,472	1,627	1,738	306	0	0
43 STANFORD UNIVERSITY	2,031	1,718	1,435	2,107	0	1,300	711	0
44 UNIV OF SOUTH CAROLINA	1,766	1,680I	1,520E	1,461	0	920	846	0
45 N MEX INST MINING & TECH	1,762	1,842	1,531	1,099	685	1,077	0	0
46 UNIVERSITY OF DELAWARE	1,714	1,948	1,789	1,688	0	234	1,480	0
47 UNIV OF MD COLLEGE PARK	1,689	1,277	480	216	1,117	111	461	0
48 UNIV OF MAINE ORONO	1,576	1,445	1,473	1,587	0	513	900	163
49 UNIVERSITY OF N DAKOTA	1,496	685I	619I	573I	1,407	84	0	5
50 UNIVERSITY OF FLORIDA	1,410	1,107	168E	185	0	183	145	1,082
TOTAL, 1ST 50 INSTS.	333,474	332,790	313,304	278,229	63,009	95,420	146,352	28,703

SEE FOOTNOTES AT END OF TABLE.

TABLE B-48. -- FEDERALLY FINANCED R&D EXPENDITURES IN THE ENVIRONMENTAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	ENVIRONMENTAL SCIENCES TOTAL				ATMOS-PHERIC	EARTH SCIENCES	OCEAN-OGRAPHY	OTHER
	1982	1981	1980	1979				
51 OHIO STATE UNIVERSITY	1,384	1,189	943	800	0	427	0	957
52 UNIVERSITY OF OKLAHOMA	1,370	1,719	3,606	2,361	954	416	0	0
53 UNIVERSITY OF GEORGIA	1,334	1,389	1,202	874	0	1,334	0	0
54 UNIV OF NEW HAMPSHIRE	1,331	1,783	1,415	1,037	0	592	32	707
55 SOUTHERN ILL U-CARBONDALE	1,297	1,412	644	189	0	1,254	43	0
56 UNIVERSITY OF MINNESOTA	1,287	1,260	1,110	1,114	0	1,287	0	0
57 HENTHORTH INST OF TECH	1,268	1,728	2,088	1,335	1,268	0	0	0
58 SAN JOSE STATE UNIVERSITY	1,216I	515	396I	352E	0I	722I	144I	350I
59 SUNY COLLEGE BUFFALO	1,191I	1,196I	1,082I	962I	0	708I	141I	342I
60 CLARK UNIVERSITY	1,190	-	24	31	0	0	0	1,190
TOTAL, 1ST 60 INSTS.	346,342	344,981	325,8[illegible]	287,284	65,231	102,150	146,712	32,249
61 DUKE UNIVERSITY	1,186I	1,039	938	928	0	69I	1,117I	0
62 NEW MEXICO STATE UNIV	1,170	843	633	228	545	625	0	0
63 BOSTON COLLEGE	1,126	1,022	1,173	953	0	32E	0	1,094E
64 PURDUE UNIVERSITY	1,086	1,194	764	710	269I	409I	328I	90I
65 TENNESSEE STATE UNIV	1,064I	966E	0	-	9I	501I	135I	419I
66 UNIVERSITY OF UTAH	1,064	1,026	2,395	3,367	0	501	0	563
67 UNIV OF MASS AT AMHERST	1,058	1,250	815	725	0	1,032	0	26
68 UNIV OF WIS-SUPERIOR	1,056	676	419	368	0	7	0	1,049
69 U OF MD CENTER FOR ECS	1,003	860	472	260	0	0	890	113
70 VA POLYTECH INST & ST U	1,000	1,909	1,959	1,812	0	1,000	0	0
TOTAL, 1ST 70 INSTS.	357,155	355,764	335,382	296,575	66,054	106,326	149,182	35,593
71 WASHINGTON UNIVERSITY	974	839	666	427	0	974	0	0
72 MONT COL MINRL SCI & TECH	932	1,738	1,275	787	0	929	0	3
73 ARIZONA STATE UNIVERSITY	890	872	751	440	30	860	0	0
74 UNIVERSITY OF NEW MEXICO	884	350	546	378	0	884	0	0
75 YALE UNIVERSITY	852	746	718	619	136	111	324	281
76 U TENNESSEE KNOXVILLE	756	883I	645I	645	0	227	0	529
77 U OF HOUSTON CENTRAL CAM	747	524	370	125	0	66	0	681
78 UNIVERSITY OF CONNECTICUT	716	585	602	629	0	138	578	0
79 UNIV OF TEXAS AT DALLAS	711	337	285	358	0	711	0	0
80 COLORADO SCHOOL OF MINES	706	536	1,048	300I	0	706	0	3
TOTAL, 1ST 80 INSTS.	365,326	363,174	342,288	301,283	66,220	111,932	150,084	37,090
81 SUNY COL OF ENV SCI & FOR	693I	666	459	148	0	0	0	693I
82 ILLINOIS INST OF TECH	687	276	84I	74E	0	0	0	687
83 MICHIGAN STATE UNIVERSITY	674	1,185	1,157	1,196	0	674	0	0
84 S DAK SCH MINES & TECH	667I	641I	580I	580	164I	252I	202I	49I
85 UNIV OF WIS-MILWAUKEE	639	390	773	546	87	96	456	0
86 NORTH TEXAS STATE UNIV	593I	418	774E	730	0	26I	0	567I
87 SUNY AT BUFFALO	577	665	595	369	0	577	0	0
88 ST LOUIS UNIVERSITY	569I	544I	604	604	39I	199I	146I	185I
89 UNIV OF NEVADA - RENO	568	728	373	0	0	568	0	0
90 UNIV OF CAL RIVERSIDE	560	516	389	438	0	560	0	0
TOTAL, 1ST 90 INSTS.	371,553	369,403	348,076	305,968	66,510	114,884	150,888	39,271
91 UNIV OF SOUTH FLORIDA	559	603	339	436	0	25	534	0
92 OREGON GRADUATE CENTER	557I	533	531	393	505I	52I	0	0
93 RUTGERS THE ST UNIV OF NJ	547	614	545	471	137	69	0	341
94 UNIVERSITY OF OREGON MAIN	545	563	565	439	0	513	32	0
95 SOUTHERN METHODIST UNIV	528	387I	483	408	0	528	0	0
96 UNIV OF CAL SANTA BARBARA	523	584	2,173	1,877	0	523	0	0
97 CARNEGIE-MELLON UNIV	522	429	338	193	0	0	0	522
98 UNIVERSITY OF IDAHO	483	648	708	682	0	483	0	0
99 NOVA UNIVERSITY	480	499E	545I	481	2	114	320	44
100 TRINITY UNIVERSITY	477	494	0	5	477	0	0	0
TOTAL, 1ST 100 INSTS.	376,774	374,757	354,293	311,943	67,631	117,191	151,774	40,178
TOTAL, ALL OTHER INSTS.	14,736	17,585	17,569	17,811	815	9,118	1,941	2,862

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DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-49. -- R&D EXPENDITURES IN MATHEMATICAL AND COMPUTER SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL ALL INSTITUTIONS	244,466	222,028	192,736	176,398	179,398	161,282	137,945	129,623
1 JOHNS HOPKINS UNIVERSITY	46,253	45,033	42,018	40,150E	45,987	44,778	41,788	39,523E
2 CARNEGIE-MELLON UNIV	11,434	10,472	5,923	4,313	9,222	7,657	4,906	3,808
3 STANFORD UNIVERSITY	10,213	7,946	7,113	7,705	8,232	7,089	6,406	6,904
4 MASS INST OF TECHNOLOGY	8,765	10,622	9,007	7,935	7,546	8,031	7,200	7,055
5 NEW MEXICO STATE UNIV	7,785	304	211	1,142	6,700	214	152	1,118
6 UNIV OF ILL URBANA	6,833	5,517	5,384	4,130	3,574	2,867	2,419	1,713
7 NEW YORK UNIVERSITY	5,473	4,948	5,004	4,260	6,399	4,887	4,778	4,624
8 UNIV OF WIS-MADISON	5,884	4,783	4,610	4,254	4,827	3,609	3,248	3,121
9 GEORGIA INSTITUTE OF TECH	5,451	4,915	4,288	4,652	2,949	2,726	2,485	2,744
10 PENNSYLVANIA STATE UNIV	5,118	4,797	4,475	3,961	640	593	444	365
TOTAL, 1ST 10 INSTS.	114,229	99,337	88,033	83,222	96,076	82,451	73,824	71,035
11 IOWA ST U OF SCI & TECH	3,976	2,929	2,175	2,140	1,301	515	532	530
12 UNIVERSITY OF OKLAHOMA	3,861	4,276	833	27	2,019	3,142	33	16
13 WASHINGTON UNIVERSITY	3,825	4,352	4,050	210	3,776	4,066	3,813	180
14 UNIV OF TEXAS AT AUSTIN	3,609	3,222	2,996	1,770	1,686	1,656	1,424	1,516
15 FLORIDA STATE UNIVERSITY	3,195	3,034	3,247	2,037	742	488	420	319
16 UNIV OF PENNSYLVANIA	3,162	4,697	3,465	2,066	2,085	3,235	2,389	1,718
17 YALE UNIVERSITY	2,718	1,869	2,016	2,230	2,306	1,746	1,867	1,946
18 GEORGE WASHINGTON UNIV	2,708	2,739	1,554	1,554	2,496	2,168	1,181	1,186
19 UNIV OF CAL BERKELEY	2,674	1,955	1,712	1,336	2,606	1,765	1,582	1,222
20 CORNELL UNIVERSITY	2,643E	2,035	1,543	1,515	2,221	1,817	1,351	1,179
TOTAL, 1ST 20 INSTS.	146,600	130,445	111,624	98,107	117,114	103,049	88,418	80,847
21 RUTGERS THE ST UNIV OF NJ	2,571	2,584	3,014	2,093	1,828	2,017	1,525	1,460
22 UNIVERSITY OF MICHIGAN	2,436	2,364	1,672	2,554	921	963	773	1,122
23 BROWN UNIVERSITY	2,399	1,995	1,900	1,631	2,199	1,984	1,870	1,569
24 ST JOHN'S UNIVERSITY (NY)	2,383	2,364	2,003	1,845	0	0	0	0
25 UNIV OF SOUTHERN CAL	2,271	944	245	227	1,102	390	204	190
26 U TEXAS SYSTEM CANCER CTR	2,191	2,326	3,046	3,025	1,536	1,708	1,667	1,703
27 PRINCETON UNIVERSITY	2,179	1,688	1,902	1,811	1,547	1,232	1,375	1,509
28 CALIFORNIA INST OF TECH	2,142	2,339	2,142	1,083	1,442	1,635	1,524	620
29 UNIV OF MD COLLEGE PARK	2,024	5,775	5,116	4,324	1,588	2,048	1,805	1,619
30 UNIVERSITY OF WASHINGTON	1,988	2,280	900	1,281	1,736	1,568	869	1,242
TOTAL, 1ST 30 INSTS.	169,184	155,106	133,564	117,981	131,013	118,694	100,030	91,881
31 LOUISIANA STATE UNIV	1,952	1,229	1,029	759	184	123	99	95
32 UNIVERSITY OF GEORGIA	1,926	1,640	1,347	1,353	1,051	907	722	623
33 UNIV OF CAL SAN DIEGO	1,907	1,473	705	800	1,637	1,379	430	466
34 UNIVERSITY OF MINNESOTA	1,767	1,364	1,398	1,333	1,381	1,080	902	914
35 PURDUE UNIVERSITY	1,725	1,507	1,476	1,167	1,625	1,307	1,222	1,014
36 UNIVERSITY OF UTAH	1,656	1,458	1,313	959	1,104	828	964	434
37 HARVARD UNIVERSITY	1,545E	1,689E	1,820E	1,522E	1,170	1,279	1,378	1,153
38 UNIV OF MASS AT AMHERST	1,539	1,165	660	948	1,293	1,103	504	811
39 UNIVERSITY OF IOWA	1,497	1,240	967	861	384	381	369	418
40 UNIV OF WEST FLORIDA	1,455	469	333	239	808	245	84	41
TOTAL, 1ST 40 INSTS.	186,153	168,320	144,612	127,922	141,650	125,226	106,804	97,820
41 UNIVERSITY OF DAYTON	1,439	2,259I	2,178	1,308	1,254	2,134I	2,018	1,140
42 NEW YORK INST TECHNOLOGY	1,361I	1,264I	1,264	1,660	0I	0I	0	0
43 UNIVERSITY OF PITTSBURGH	1,325	1,758	1,789	1,952	845	812	711	893
44 UNIV OF NC AT CHAPEL HILL	1,302	1,371	744	4,817	1,229	1,167	711	4,676
45 TEXAS A & M UNIVERSITY	1,245	430	545	372	1,187	397	480	333
46 UNIVERSITY OF ROCHESTER	1,236	882	875	559	1,115	732	722	442
47 N C STATE UNIV AT RALEIGH	1,235I	1,114	1,037	677	424I	394	415	710
48 OHIO STATE UNIVERSITY	1,219	1,294	1,250	1,229	987	978	837	707
49 SUNY AT STONY BROOK	1,182	977	900	1,037	807	755	641	740
50 UNIVERSITY OF ARIZONA	1,174	1,160	802	617	739	810	549	343
TOTAL, 1ST 50 INSTS.	198,871	180,829	159,997	142,150	150,327	133,405	112,371	107,304

SEE FOOTNOTES AT END OF TABLE.

TABLE B-49. — R&D EXPENDITURES IN MATHEMATICAL AND COMPUTER SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 ROCKEFELLER UNIVERSITY	1,120	1,200	1,156	1,119	396	334	216	214
52 US NAVAL POSTGRAD SCHOOL	1,114	997	699	661	1,079	997	699	661
53 UNIVERSITY OF FLORIDA	1,055	812	449E	387	656	406	279E	264
54 UNIV OF CAL SANTA BARBARA	1,041	752	660	657	596	606	481	529
55 UNIV OF ILL CHICAGO CIR	1,032	822	769	983	527	409	420	472
56 COLORADO STATE UNIVERSITY	1,026	794	649	677	481	587	447	422
57 WASHINGTON STATE UNIV	1,000	196	170	101	998	170	144	81
58 INDIANA UNIVERSITY	988	939	591	511	643	740	408	384
59 UNIV OF CAL LOS ANGELES	976	765	660	598	936	751	628	570
60 MICHIGAN STATE UNIVERSITY	899	895	678	593	630	574	491	473
TOTAL, 1ST 60 INSTS.	209,122	189,001	162,478	148,331	157,269	138,979	118,044	111,074
61 UNIVERSITY OF CHICAGO	853E	1,258E	1,103E	1,125E	749	1,166	1,002	1,000
62 COLUMBIA UNIV MAIN DIV	841	649	598	470	839	644	573	455
63 LEHIGH UNIVERSITY	786	745	697	624	3[illegible]	359	368	357
64 BRANDEIS UNIVERSITY	782	263	231	209	293	263	231	208
65 RENSSELAER POLYTECH INST	771	723	562	355	441	427	349	249
66 SUNY AT BUFFALO	770	861	775	9[illegible]	463	580	462	604
67 SYRACUSE UNIVERSITY	745	948	1,125	992	401	704	849	72[illegible]
68 UNIV OF CAL IRVINE	719	18[illegible]	144	344	671	178	142	151
69 UNIVERSITY OF CONNECTICUT	672	799	725	573	366	467	433	335
70 UNIV OF ARK PINE BLUFF	617	452	510	409	0	0	0	0
TOTAL, 1ST 70 INSTS.	216,678	195,890	168,949	154,184	161,895	143,767	122,453	115,192
71 UNIVERSITY OF VIRGINIA	606	570	369	513	506	551	365	411
72 UNIVERSITY OF COLORADO	597	968	690	1,014	567	814	482	650
73 UNIV OF P R-RIO PIEDRAS	595I	561I	498I	435[illegible]	300I	288I	261I	226I
74 TENNESSEE STATE UNIV	590I	536E	33I	-	368I	334E	0	-
75 OREGON STATE UNIVERSITY	576	1,028	776	506	244	364	230	156
76 UNIVERSITY OF NEW MEXICO	551	178	119	184	262	129	97	106
77 RICE UNIVERSITY	536I	510I	437	273I	444I	423I	363	273I
78 DENISON UNIVERSITY	528I	578I	478E	405	186I	186I	196E	168
79 VA POLYTECH INST & ST U	522	408	344	527	450	351	295	272
80 FLORIDA A & M UNIVERSITY	487I	89	0	0	13I	23	0	0
TOTAL, 1ST 80 INSTS.	222,266	201,266	172,693	157,953	165,235	147,230	124,742	117,454
81 NORTHERN ILLINOIS UNIV	484	675	627	513	271	195	194	119
82 UNIV OF SOUTH CAROLINA	476	257I	219	211	286	68I	61E	59
83 LOMA LINDA UNIVERSITY	474E	455I	779E	825[illegible]	356E	346I	593E	690I
84 UNIV OF ARK FAYETTEVILLE	465	278E	36E	438[illegible]	121	63E	9	77
85 UNIV OF NEBRASKA-LINCOLN	451	308	244	274	97	45	44	48
86 COLLEGE OF WILLIAM & MARY	445E	476	239I	249	327E	309	227I	227
87 UNIVERSITY OF DELAWARE	438	343	373	224	290	288	300	158
88 ARIZONA STATE UNIVERSITY	437	176	31	59	247	135	27	57
89 SUNY AT BINGHAMTON	419	262	187	96	284	201	144	69
90 CLEMSON UNIVERSITY	401	332	182	162	354	242	143	41
TOTAL, 1ST 90 INSTS.	226,756	204,828	175,610	160,994	167,868	149,142	126,484	118,999
91 UNIVERSITY OF DENVER	374	190I	162	171	260	158I	137	151
92 DUKE UNIVERSITY	369I	381	408	332	322I	283	357	331
93 NORTHWESTERN UNIVERSITY	361	295	361	367	358	285	3[illegible]9	346
94 U TENNESSEE KNOXVILLE	337	183I	137I	137	271	167I	122I	122
95 TEMPLE UNIVERSITY	330	175E	66	61E	151	95	66	54
96 UNIV OF CAL RIVERSIDE	302	364	297	259	54	81	8[illegible]	73
97 KANS ST U - AG & APP SCI	288	217	204	210	230	165	161	162
98 KENT STATE UNIVERSITY	287	[illegible]	59I	50I	242	105I	55[illegible]	47I
99 CUNY QUEENS COLLEGE	281	[illegible]	195	276I	239	294	129	251I
100 ILLINOIS INST OF TECH	279	182	649I	575E	260	177	551I	486E
TOTAL, 1ST 100 INSTS.	229,964	207,3[illegible]	178,148	163,432	170,255	150,932	128,492	121,022
TOTAL, ALL OTHER INSTS.	14,502	14,727	14,588	12,966	9,[illegible]43	10,350	9,453	8,601

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-50. — R&D EXPENDITURES IN MATHEMATICS AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	96,121	89,008	78,585	78,477	72,030	67,839	61,028	60,431
1 JOHNS HOPKINS UNIVERSITY	13,908	13,071	12,414	11,869E	13,900	13,050	12,398	11,692E
2 NEW YORK UNIVERSITY	4,435	3,621	3,777	3,788	4,362	3,560	3,646	3,517
3 UNIV OF WIS-MADISON	3,734	3,814	3,768	3,582	2,985	2,930	2,756	2,664
4 STANFORD UNIVERSITY	3,446	3,244	3,0[illegible]	2,697	2,699	2,773	2,[illegible]57	2,155
5 UNIV OF CAL BERKELEY	2,609	1,891	1,662	1,292	2,406	1,765	1,582	1,222
6 IOWA ST U OF SCI & TECH	2,511	1,379	1,265	2,140	1,262	413	435	530
7 U TEXAS SYSTEM CANCER CTR	2,191	2,328	2,119	1,964	1,536	1,708	1,554	1,352
8 GEORGE WASHINGTON UNIV	1,860E	2,213	1,124	1,209	1,648	1,654	757	850
9 LOUISIANA STATE UNIV	1,826	1,088	958	709	166	123	99	95
10 PRINCETON UNIVERSITY	1,650	1,305	1,554	1,389	1,122	961	1,089	1,142
TOTAL, 1ST 10 INSTS.	38,070	33,954	31,722	30,639	32,086	28,937	26,885	25,219
11 ST JOHN'S UNIVERSITY (NY)	1,607	1,564	1,291	1,212	0	0	0	0
12 MASS INST OF TECHNOLOGY	1,603	1,427	1,163	1,289	1,595	1,422	1,162	1,280
13 BROWN UNIVERSITY	1,595	1,494	1,300	1,214	1,550	1,491	1,300	1,121
14 RUTGERS THE ST UNIV OF NJ	1,319	1,283	1,129	1,050	916	939	811	732
15 TEXAS A & M UNIVERSITY	1,245	430	546	372	1,187	397	480	333
16 FLORIDA STATE UNIVERSITY	1,224	994	849	702	742	488	420	276
17 UNIVERSITY OF MINNESOTA	1,217	1,030	1,242	1,207	958	829	777	795
18 N C STATE UNIV AT RALEIGH	1,104I	1,000	772	637	334I	290	264	203
19 UNIV OF WEST FLORIDA	1,044	321	140	43	802	244	84	11
20 UNIV OF ILL CHICAGO CIR	1,032	822	769	883	527	409	420	472
TOTAL, 1ST 20 INSTS.	51,020	44,319	40,923	39,248	40,697	35,446	32,603	30,592
21 UNIV OF ILL URBANA	1,025	825	1,026	773	713	728	887	635
22 UNIV OF PENNSYLVANIA	983	1,353	936	480	560	771	769	387
23 PURDUE UNIVERSITY	966	198	336	167	918	166	311	143
24 WASHINGTON UNIVERSITY	906E	976	714	210	906	877	688	180
25 PENNSYLVANIA STATE UNIV	889	784	390	354	435	375	209	184
26 HARVARD UNIVERSITY	888E	984E	931E	769E	672	745	705	598
27 UNIVERSITY OF MICHIGAN	864	883	639	844	717	818	579	665
28 UNIVERSITY OF CHICAGO	853E	1,258E	1,103E	1,119E	749	1,166	1,002	995
29 CARNEGIE-MELLON UNIV	853	670	660	664	796	653	636	639
30 UNIV OF MD COLLEGE PARK	809	510	420	382	527	450	380	362
TOTAL, 1ST 30 INSTS.	60,356	52,760	48,078	44,930	47,710	42,195	38,769	35,290
31 UNIV OF CAL SANTA BARBARA	781	459	350	352E	443	387	288	317E
32 RENSSELAER POLYTECH INST	771	723	563	355	447	427	349	249
33 UNIV OF CAL LOS ANGELES	747	733	574	472	708	619	552	444
34 UNIVERSITY OF DAYTON	740	1,687I	1,626	883E	646	1,594I	1,507	770
35 UNIVERSITY OF FLORIDA	723	553	182E	157	486	224	293	96
36 UNIVERSITY OF PITTSBURGH	715	1,113	1,184	1,113	641	603	587	500
37 UNIVERSITY OF IOWA	685	570	347	173	185	143	118	78
38 UNIVERSITY OF GEORGIA	666	667	575	607	91[illegible]	1[illegible]8	1[illegible]5	139
39 GEORGIA INSTITUTE OF TECH	660	701	512	596	357	389	29[illegible]	352
40 INDIANA UNIVERSITY	650	578	455	444	410	417	301	335
TOTAL, 1ST 40 INSTS.	67,194	60,444	54,446	50,082	52,124	47,121	42,962	38,572
41 OHIO STATE UNIVERSITY	649	606	566	662	455	487	429	458
42 UNIV OF NC AT CHAPEL HILL	643	468	354	4,356	636	468	354	4,263
43 SUNY AT STONY BROOK	630	627	644	725	430	484	459	518
44 UNIV OF TEXAS AT AUSTIN	608	758	551	390	506	675	461	325
45 LEHIGH UNIVERSITY	576	540	503	529	289	233	249	357
46 UNIVERSITY OF WASHINGTON	566	563	493	808	557	556	481	771
47 YALE UNIVERSITY	558	643	569	558	537	618	533	550
48 UNIV OF SOUTHERN CAL	558	499	141	227	91	117	111	190
49 CORNELL UNIVERSITY	554E	599	533	528	501	599	535	522
50 COLUMBIA UNIV MAIN DIV	548	562	532	470	546	558	508	455
TOTAL, 1ST 50 INSTS.	73,084	66,309	59,332	59,335	56,662	51,914	47,080	46,981

SEE FOOTNOTES AT END OF TABLE.

TABLE B-50. -- R&D EXPENDITURES IN MATHEMATICS AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 ROCKEFELLER UNIVERSITY	542	617	651	643	119	80	107	89
52 FLORIDA A & M UNIVERSITY	474I	66	0	0	0I	0	0	0
53 UNIV OF ARK FAYETTEVILLE	453	278E	36E	427E	121	63E	9	77
54 NORTHERN ILLINOIS UNIV	451	578	611	484	245	153	180	90
55 UNIV OF CAL SAN DIEGO	450	399	389	424	432	391	382	415
56 OREGON STATE UNIVERSITY	447	877	557	345	236	342	168	101
57 LOMA LINDA UNIVERSITY	442E	400I	685E	752I	332E	323I	553I	643I
58 UNIVERSITY OF ARIZONA	428	447	406	294	234	262	232	145
59 UNIVERSITY OF UTAH	427	411	393	353	411	396	368	5
60 UNIVERSITY OF ROCHESTER	426	293	272	194	398	262	237	169
TOTAL, 1ST 60 INSTS.	77,624	70,675	63,332	63,251	59,190	54,188	49,316	48,715
61 MICHIGAN STATE UNIVERSITY	406	738	429	298	318	464	374	173
62 CLEMSON UNIVERSITY	401	332	182	162	354	242	143	41
63 UNIV OF SOUTH CAROLINA	386	257I	219E	211E	223	68I	61E	59E
64 UNIVERSITY OF DENVER	374	190I	162	171	260	158I	137	151
65 NORTHWESTERN UNIVERSITY	361	295	361	367	358	285	349	346
66 UNIV OF ARK PINE BLUFF	357	310	324	245	0	0	0	0
67 TENNESSEE STATE UNIV	352I	320E	9I	-	292I	265E	0	-
68 COLORADO STATE UNIVERSITY	344	469	380	524	228	309	213	316
69 SUNY AT BUFFALO	335	237	210	356	197	193	159	277
70 UNIVERSITY OF DELAWARE	329	283	342	186	202	241	285	131
TOTAL, 1ST 70 INSTS.	81,269	74,106	65,950	65,771	61,622	56,413	51,037	50,209
71 UNIV OF CAL RIVERSIDE	302	364	297	259	54	81	81	73
72 BRANDEIS UNIVERSITY	293	263	231	209	293	263	231	208
73 UNIV OF MASS AT AMHERST	288	211	124	158	242	190	98	120
74 KENT STATE UNIVERSITY	287	134I	59I	50I	242	105I	55I	47I
75 RICE UNIVERSITY	272I	260I	223	273I	268I	256I	220	273I
76 BOSTON UNIVERSITY	267	162	97	151	267	162	97	151
77 UNIVERSITY OF CONNECTICUT	262	232	232	138	142	137	138	81
78 CALIFORNIA INST OF TECH	257	257	236	212	252	227	213	186
79 SYRACUSE UNIVERSITY	254	99	319	74	63	43	81	67
80 UNIVERSITY OF VIRGINIA	253	168	181	148	247	166	179	148
TOTAL, 1ST 80 INSTS.	84,004	76,256	67,949	67,443	63,692	58,043	52,430	51,563
81 YESHIVA UNIVERSITY	251	79I	66	212	62	76I	59	206
82 UNIV OF MISSOURI COLUMBIA	247	116	75	80	218	93	58	62
83 KANS ST U - AG & APP SCI	239	122	48	57	220	111	31	40
84 CATHOLIC UNIV OF P R	239	236E	0	0	0	0	0	0
85 UNIVERSITY OF OKLAHOMA	237	270	65	27	73	39	13	16
86 US NAVAL POSTGRAD SCHOOL	234	319	342	192	236	319	342	192
87 UNIVERSITY OF NEW MEXICO	235	145	112	110	134	129	90	46
88 UNIVERSITY OF KENTUCKY	233	305	223	175	138	197	201	157
89 U TENNESSEE KNOXVILLE	226	127I	96I	96	182	111I	81I	41
90 DREXEL UNIVERSITY	225	261	86	75	196	254	71	67
TOTAL, 1ST 90 INSTS.	86,372	78,236	69,062	68,457	65,151	59,372	53,396	52,430
91 ARIZONA STATE UNIVERSITY	221	135	31	59	206	135	27	57
92 DARTMOUTH COLLEGE	214	23	56	51	80	23	51	47
93 TEMPLE UNIVERSITY	212	133E	66	60E	116	93	66	53
94 CLARKSON COLLEGE OF TECH	212	143	210	152	198	125	181	135
95 UNIV OF CAL SANTA CRUZ	209	194	450	355	178	174	407	322
96 NORTHEASTERN UNIVERSITY	202	138E	126I	114	121	69E	74I	66
97 AMERICAN UNIVERSITY	202	63	5	9	27	27	5	9
98 SAN JOSE STATE UNIVERSITY	201I	85	64I	55E	154I	65	37I	33E
99 VA POLYTECH INST & ST U	200	173	142	490	174	142	114	236
100 CUNY GRAD SCH & UNIV CTR	196	126	114	199	172	100E	99	181
TOTAL, 1ST 100 INSTS.	88,441	79,449	70,326	70,011	66,577	60,325	54,457	53,969
TOTAL, ALL OTHER INSTS.	7,680	9,559	8,259	8,466	5,453	7,514	6,571	6,862

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-51. -- R&D EXPENDITURES IN THE COMPUTER SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	148,345	133,020	114,151	97,921	107,368	93,443	76,917	69,192
1 JOHNS HOPKINS UNIVERSITY	32,345	31,962	29,604	28,281E	32,087	31,728	29,390	27,891E
2 CARNEGIE-MELLON UNIV	10,581	9,802	5,263	3,649	8,426	7,004	4,270	3,169
3 NEW MEXICO STATE UNIV	7,723	252	155	93	6,642	165	96	69
4 MASS INST OF TECHNOLOGY	7,162	9,195	7,844	6,646	5,951	6,609	6,038	5,775
5 STANFORD UNIVERSITY	6,767	4,702	4,032	5,008	5,533	4,316	3,839	4,749
6 UNIV OF ILL URBANA	5,828	4,692	4,358	3,357	2,841	2,139	1,532	1,078
7 GEORGIA INSTITUTE OF TECH	4,791	4,214	3,776	4,056	2,592	2,337	2,188	2,392
8 PENNSYLVANIA STATE UNIV	4,229	4,013	4,085	3,707	205	218	235	181
9 UNIVERSITY OF OKLAHOMA	3,624	4,006	768	0	1,946	3,103	0	0
10 UNIV OF TEXAS AT AUSTIN	3,001	2,464	2,445	1,380	1,180	981	963	1,191
TOTAL, 1ST 10 INSTS.	86,051	75,302	62,330	56,177	67,403	58,600	48,551	46,495
11 WASHINGTON UNIVERSITY	2,919E	3,376	3,336	0	2,870	3,189	3,125	0
12 UNIV OF PENNSYLVANIA	2,179	3,344	2,529	1,586	1,525	2,464	1,620	1,331
13 YALE UNIVERSITY	2,160	1,226	1,447	1,672	1,769	1,128	1,334	1,396
14 UNIV OF WIS-MADISON	2,150	969	842	672	1,842	679	492	457
15 CORNELL UNIVERSITY	2,089E	1,436	1,010	987	1,720	1,218	818	657
16 NEW YORK UNIVERSITY	2,038	1,327	1,227	1,192	2,037	1,327	1,132	1,107
17 FLORIDA STATE UNIVERSITY	1,971	2,040	2,398	1,335	0	0	0	43
18 CALIFORNIA INST OF TECH	1,885	2,082	1,906	871	1,190	1,408	1,311	434
19 UNIV OF SOUTHERN CAL	1,713	445	104	0	1,021	273	93	0
20 UNIVERSITY OF MICHIGAN	1,572	1,481	1,033	1,710	204	145	194	457
TOTAL, 1ST 20 INSTS.	106,727	93,028	78,162	66,202	81,581	70,431	58,670	52,377
21 IOWA ST U OF SCI & TECH	1,565	1,550	910	0	39	102	97	0
22 UNIV OF CAL SAN DIEGO	1,457	1,074	316	376	1,205	988	48	51
23 UNIVERSITY OF WASHINGTON	1,422	1,717	407	473	1,179	1,012	388	471
24 NEW YORK INST TECHNOLOGY	1,361I	1,264I	1,264	1,660	0I	0I	0	0
25 UNIVERSITY OF GEORGIA	1,260	973	772	746	960	789	617	484
26 RUTGERS THE ST UNIV OF NJ	1,252	1,301	1,885	1,043	912	1,078	714	728
27 UNIV OF MASS AT AMHERST	1,251	934	536	790	1,051	913	406	691
28 UNIVERSITY OF UTAH	1,229	1,047	920	606	693	432	596	429
29 UNIV OF MD COLLEGE PARK	1,215	5,265	4,696	3,942	1,061	1,598	1,425	1,257
30 WASHINGTON STATE UNIV	883	101	81	42	881	96	70	35
TOTAL, 1ST 30 INSTS.	119,622	108,254	89,949	75,880	89,562	77,439	63,031	56,523
31 US NAVAL POSTGRAD SCHOOL	878	678	357	469	843	678	357	469
32 GEORGE WASHINGTON UNIV	848E	526	430	345	848	514	424	336
33 BROWN UNIVERSITY	844	501	600	417	649	493	570	388
34 UNIVERSITY OF IOWA	812	670	620	688	199	233	251	340
35 UNIVERSITY OF ROCHESTER	810	589	603	365	717	470	485	273
36 ST JOHN'S UNIVERSITY (NY)	776	800	712	633	0	0	0	0
37 PURDUE UNIVERSITY	759	1,309	1,140	1,000	707	1,141	1,011	871
38 UNIVERSITY OF ARIZONA	746	713	396	323	555	548	317	198
39 UNIVERSITY OF DAYTON	699	572I	552	425E	608	540I	511	370
40 COLORADO STATE UNIVERSITY	682	325	269	153	253	278	234	106
TOTAL, 1ST 40 INSTS.	127,476	114,937	95,628	80,698	94,941	82,334	67,191	59,874
41 UNIV OF CAL IRVINE	660	96	78	98E	612	93	76	95E
42 UNIV OF NC AT CHAPEL HILL	659	903	390	461	593	699	357	413
43 HARVARD UNIVERSITY	657E	705E	889E	733E	498	534	673	555
44 UNIVERSITY OF PITTSBURGH	610	645	605	839	204	209	124	393
45 ROCKEFELLER UNIVERSITY	578	583	505	470	277	254	109	125
46 OHIO STATE UNIVERSITY	570	688	684	567	542	491	391	249
47 SUNY AT STONY BROOK	552	350	256	312	377	271	182	222
48 UNIVERSITY OF MINNESOTA	550	334	156	126	423	251	125	119
49 PRINCETON UNIVERSITY	529	383	348	422	425	271	286	367
50 DENISON UNIVERSITY	528I	528I	478E	409	186I	186I	196E	168
TOTAL, 1ST 50 INSTS.	133,369	120,152	100,017	85,135	99,078	85,593	69,710	62,580

SEE FOOTNOTES AT END OF TABLE.

TABLE B-51. — R&D EXPENDITURES IN THE COMPUTER SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 UNIV OF P R-RIO PIEDRAS	511I	482I	428I	373I	270I	259I	235I	203I
52 MICHIGAN STATE UNIVERSITY	493	157	249	295	312	110	117	0
53 SYRACUSE UNIVERSITY	491	849	806	918E	338	661	768	662
54 BRANDEIS UNIVERSITY	489	0	0	0	0	0	0	0
55 COLLEGE OF WILLIAM & MARY	445E	476	91	9	327E	309	91	9
56 SUNY AT BUFFALO	434	624	565	956	266	387	303	327
57 UNIV OF WEST FLORIDA	411	148	193	196	6	1	0	0
58 UNIVERSITY OF CONNECTICUT	410	567	493	435	224	330	295	254
59 UNIVERSITY OF COLORADO	404	712	508	742	386	574	312	407
60 UNIVERSITY OF VIRGINIA	353	402	188	263	259	385	186	263
TOTAL, 1ST 60 INSTS.	137,811	124,569	103,456	88,922	101,466	88,609	71,935	64,705
61 INDIANA UNIVERSITY	338	361	136	67	233	323	107	49
62 UNIVERSITY OF FLORIDA	332	259	267E	230	170	182	150E	166
63 VA POLYTECH INST & ST U	322	235	202	47	276	209	181	36
64 UNIVERSITY OF NEW MEXICO	316	33	7	74	128	0	7	60
65 UNIV OF NEBRASKA-LINCOLN	299	231	192	223	44	9	21	16
66 COLUMBIA UNIV MAIN DIV	293	87	66	0	293	86	65	0
67 RICE UNIVERSITY	264I	250I	214	0	176I	167I	143	0
68 UNIV OF ARK PINE BLUFF	260	152	186	164	0	0	0	0
69 UNIV OF CAL SANTA BARBARA	260	293	310E	305	153	219	193E	212
70 N J INST OF TECHNOLOGY	257	320	424	681	195	313	424	681
TOTAL, 1ST 70 INSTS.	140,752	126,790	105,460	90,713	103,134	90,117	73,226	65,925
71 TENNESSEE STATE UNIV	238I	216E	24I	-	76I	69E	0	-
72 UNIV OF ALASKA FAIRBANKS	230	0	0	0	230	0	0	0
73 UNIV OF CAL LOS ANGELES	229	132	86	126	228	132	76	126
74 SUNY AT BINGHAMTON	228	178	136	28	151	156	111	27
75 UNIV OF SOUTH FLORIDA	222E	119	0	66	222	98	0	40
76 ARIZONA STATE UNIVERSITY	216	41	0	0	41	0	0	0
77 LEHIGH UNIVERSITY	210	205	194	95	108	126	119	0
78 DUKE UNIVERSITY	202I	234	270	218	155I	137	221	217
79 MILWAUKEE AREA TECH COL	168	0	0	0	83	0	0	0
80 CUNY BERNARD BARUCH COL	162I	145I	127I	110I	0I	0I	0I	0I
TOTAL, 1ST 80 INSTS.	142,857	128,060	106,297	91,356	104,428	90,835	73,753	66,335
81 ILLINOIS INST OF TECH	161	108	649I	575E	161	103	551I	486E
82 ST JOSEPH COLLEGE	160	0	4I	0	0	0	4I	0
83 WAYNE STATE UNIVERSITY	158	326	363	42	153	257	53	27
84 UNIVERSITY OF MIAMI	146	109	71	0	99	69	42	0
85 INSTITUTE OF TEXTILE TECH	141I	131I	118I	105I	0I	0I	0I	0I
86 CUNY CITY COLLEGE	135	80	65	36	135	75	65	30
87 N C STATE UNIV AT RALEIGH	131I	114	265	40	120I	104	251	7
88 HARVEY MUDD COLLEGE	129	100	0	0	100E	0	0	0
89 OREGON STATE UNIVERSITY	129	151	219	161	8	22	62	55
90 LOUISIANA STATE UNIV	126	141	71	50	18	0	0	0
TOTAL, 1ST 90 INSTS.	144,273	129,320	108,122	92,365	105,222	91,465	74,681	66,940
91 UNIV OF TEXAS AT DALLAS	124	108	332	35	41	29	58	32
92 UNIV OF TEX AT ARLINGTON	123	110	59	0	0	0	0	0
93 TEMPLE UNIVERSITY	118	42E	0	1	35	2	0	1
94 SUNY AT ALBANY	111	132	55E	46E	111	132	52	44
95 U TENNESSEE KNOXVILLE	111	56I	41I	41	89	56I	41I	41
96 UNIVERSITY OF DELAWARE	109	60	31	38	88	47	15	27
97 UNIV OF MISSOURI ROLLA	102	24	101	60	74	16	84	51
98 TEXAS WOMAN'S UNIVERSITY	102E	157	155	52	14E	46	73	52
99 CUNY QUEENS COLLEGE	102	153	77	178I	78	109	16	168I
100 MANKATO STATE UNIVERSITY	99	0	0	0	60	0	0	0
TOTAL, 1ST 100 INSTS.	145,374	130,162	108,973	92,816	105,812	91,902	75,020	67,356
TOTAL, ALL OTHER INSTS.	2,971	2,858	5,178	5,105	1,556	1,541	1,897	1,836

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-52. — R&D EXPENDITURES IN THE LIFE SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				AGRI-CULTURAL	BIO-LOGICAL	MEDICAL	
	1982	1981	1980	1979	SCIENCES	SCIENCES	SCIENCES	OTHER
TOTAL, ALL INSTITUTIONS	3,969,808	3,672,257	3,217,773	2,832,523	838,355	1,289,910	1,721,004	120,539
1 UNIVERSITY OF MINNESOTA	110,734	99,508	90,672	79,201	29,542	17,109	63,561	522
2 UNIV OF CAL SAN FRANCISCO	95,282	89,209	70,400	58,493	0	0	95,282	0
3 UNIV OF WIS-MADISON	85,721	78,586	73,374	66,384	13,367	29,607	41,892	855
4 CORNELL UNIVERSITY	83,262E	70,385	62,421	54,014	23,743E	23,872E	35,647E	0
5 UNIV OF CAL DAVIS	82,542	77,528	58,287	47,846	55,067	6,226	21,249	0
6 HARVARD UNIVERSITY	81,515E	76,368	66,599E	59,529E	0	52,201E	29,314E	0
7 UNIVERSITY OF WASHINGTON	80,166	77,465	70,582	61,811	8,862	20,101	49,702	1,501
8 JOHNS HOPKINS UNIVERSITY	73,814	73,228	70,077	65,317E	0	24,316	39,031	10,467
9 UNIV OF PENNSYLVANIA	72,246	65,160	58,766	51,389	0	36,158	32,630	3,458
10 YALE UNIVERSITY	68,690	63,677	53,859	47,207	302	28,350	40,038	0
TOTAL, 1ST 10 INSTS.	833,972	771,114	675,037	591,191	130,883	237,940	448,346	16,803
11 COLUMBIA UNIV MAIN DIV	68,249	62,076	58,219	47,000	0	16,557	50,705	987
12 UNIV OF CAL LOS ANGELES	61,354	58,139	51,424	43,127	0	6,284	55,070	0
13 STANFORD UNIVERSITY	60,363	52,525	46,776	43,598	0	3,859	56,190	314
14 UNIVERSITY OF MICHIGAN	58,707	57,840	50,661	42,915	0	23,314	35,359	34
15 WASHINGTON UNIVERSITY	56,523	50,091	47,803	43,941	0	19,280	34,934	2,309
16 UNIV OF CAL SAN DIEGO	53,998	53,303	39,681	33,465	0	17,484	36,514	0
17 TEXAS A & M UNIVERSITY	53,222	45,162	38,118	31,980	49,778	2,243	4,545	656
18 YESHIVA UNIVERSITY	51,736	44,951I	42,272	34,657	0	13,710	26,748	11,278
19 MICHIGAN STATE UNIVERSITY	51,066	46,181	50,566	41,697	30,821	14,726	5,324	195
20 NEW YORK UNIVERSITY	50,185	48,079	42,881	41,114	0	13,347	29,236	7,602
TOTAL, 1ST 20 INSTS.	1,399,375	1,289,461	1,143,438	994,685	207,482	368,744	782,971	40,178
21 BAYLOR COL OF MEDICINE	48,661	44,733	37,908	33,676	0	21,344	27,317	0
22 UNIVERSITY OF GEORGIA	47,258	44,0[illegible]	41,341	37,174	30,258	13,110	3,890	0
23 UNIV OF SOUTHERN CAL	46,079	41,241	35,939	32,756	0	2,265	43,814	0
24 OHIO STATE UNIVERSITY	45,823	44,351	38,998	33,054	11,478	18,808	12,246	3,291
25 UNIVERSITY OF CHICAGO	45,265E	41,528E	37,570E	38,803E	0	21,375E	22,282E	1,628E
26 LOUISIANA STATE UNIV	44,567	38,690	34,525	28,852	28,398	8,930	7,239	0
27 UNIV OF CAL BERKELEY	43,918	44,211	35,686	31,746	22,613	14,462	6,843	0
28 UNIVERSITY OF FLORIDA	42,922	36,523	32,868E	28,340	14,126	15,639	12,150	1,007
29 UNIVERSITY OF ROCHESTER	42,167	41,042	38,917	34,072	0	17,791	22,108	2,268
30 UNIVERSITY OF ARIZONA	41,637	37,348	29,390	25,031	13,494	12,456	15,583	104
TOTAL, 1ST 30 INSTS.	1,847,692	1,703,131	1,506,580	1,318,189	327,849	514,924	956,443	48,476
31 DUKE UNIVERSITY	41,384I	35,387	31,395	30,749	437I	15,610I	22,747I	2,590I
32 UNIVERSITY OF CONNECTICUT	38,457	33,866	30,450	26,095	150	19,317	18,506	484
33 ROCKEFELLER UNIVERSITY	37,643	33,159	30,163	27,851	0	35,849	1,794	0
34 N C STATE UNIV AT RALEIGH	37,343I	33,850	28,519	26,964	28,007I	9,219I	117I	0
35 U TEXAS SYSTEM CANCER CTR	36,373	35,045	30,202	30,102	0	9,442	24,463	2,468
36 UNIVERSITY OF IOWA	36,312	34,585	31,220	24,484	0	11,145	24,349	818
37 UNIVERSITY OF COLORADO	35,931E	35,558E	34,530	26,245E	0	8,542E	26,573E	816
38 UNIV ALABAMA BIRMINGHAM	35,617	33,571	30,624	26,719	0	7,489	27,503	625
39 OREGON STATE UNIVERSITY	35,381	31,890	27,148	23,182	23,207	9,617	1,866	691
40 UNIVERSITY OF MIAMI	33,737	32,228	26,707	25,513	0	7,490	23,738	2,509
TOTAL, 1ST 40 INSTS.	2,215,870	2,045,270	1,807,538	1,586,093	379,650	648,644	1,128,099	59,477
41 UNIV OF MISSOURI COLUMBIA	33,240	33,446	27,879	26,515	15,001	9,836	8,403	0
42 UNIVERSITY OF PITTSBURGH	32,435	23,353	17,583	16,597	0	3,655	23,096	5,684
43 U TEX HLTH SCI CTR DALLAS	32,058	29,868	26,567	22,576	0	13,184	18,874	0
44 UNIV OF NC AT CHAPEL HILL	31,747	32,925	27,897	19,423	0	15,589	16,158	0
45 UNIV OF CAL RIVERSIDE	31,739	30,945	19,733	16,734	26,718	3,879	1,142	0
46 IOWA ST U OF SCI & TECH	31,733	28,008	26,983	25,038	15,971	10,569	2,305	2,888
47 PURDUE UNIVERSITY	31,251	33,609	28,716	25,482	14,173	13,235	3,843	0
48 CUNY MT SINAI SCH OF MED	29,797	28,794	26,696	23,085	0	7,421	22,376	0
49 UNIVERSITY OF KENTUCKY	28,773	26,046	22,311	23,253	18,471	890	7,043	2,369
50 PENNSYLVANIA STATE UNIV	28,391	28,061	26,245	23,693	12,992	9,916	5,256	227
TOTAL, 1ST 50 INSTS.	2,527,034	2,341,125	2,058,148	1,808,489	482,976	736,818	1,236,595	70,645

SEE FOOTNOTES AT END OF TABLE.

TABLE B-52. — R&D EXPENDITURES IN THE LIFE SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				AGRI-CULTURAL	BIO-LOGICAL	MEDICAL	
	1982	1981	1980	1979	SCIENCES	SCIENCES	SCIENCES	OTHER
51 MISSISSIPPI STATE UNIV	27,345	26,083	22,935	20,218	25,244	1,643	339	119
52 UNIV OF NEBRASKA-LINCOLN	27,276	26,380	19,536	17,395	22,216	2,767	2,293	0
53 CASE WESTERN RESERVE UNIV	26,911	26,864	26,164	22,770	0	9,564	17,347	0
54 NORTHWESTERN UNIVERSITY	26,675	25,223	25,584	20,364	0	8,006	16,422	2,247
55 MASS INST OF TECHNOLOGY	26,191	24,024	20,651	18,672	0	25,541	650	0
56 BOSTON UNIVERSITY	26,172	24,557	20,250	17,405	0	1,070	25,102	0
57 UNIVERSITY OF UTAH	25,837	25,300	20,396	19,853	0	13,021	12,816	0
58 COLORADO STATE UNIVERSITY	25,613	26,087	20,326	20,112	12,452	10,731	2,430	0
59 UNIV OF ILL URBANA	25,595	28,970	26,237	22,767	13,343	8,935	3,457	860
60 WASHINGTON STATE UNIV	24,473	22,135	23,663	19,107	20,151	1,792	2,530	0
TOTAL, 1ST 60 INSTS.	2,789,122	2,596,748	2,283,890	2,007,152	576,382	819,888	1,318,981	73,871
61 OKLAHOMA STATE UNIVERSITY	24,182I	21,076I	13,342I	12,543I	15,502I	6,020I	2,660I	0
62 UNIVERSITY OF CINCINNATI	23,297	26,259	24,737	20,647	0	9,156	14,054	87
63 INDIANA UNIVERSITY	23,130	18,335	16,039	14,469	0	8,508	14,491	131
64 KANS ST U - AG & APP SCI	21,195	18,700	16,001	14,119	16,030	4,283	882	0
65 VIRGINIA COMMONWLTH UNIV	21,171	19,320	17,710	14,638	0	9,669	11,170	332
66 UNIV OF CAL IRVINE	20,874	20,481	15,990	12,069	0	5,466	15,408	0
67 VA POLYTECH INST & ST U	20,772	19,419	17,437	15,715	18,137	1,802	833	0
68 AUBURN UNIVERSITY	20,547	20,487	16,636	16,449	20,197	0	350	0
69 VANDERBILT UNIVERSITY	20,371	19,821	17,245	15,132	0	10,199	8,022	2,150
70 EMORY UNIVERSITY	19,779	17,411	14,672	13,590	0	5,763	10,379	3,637
TOTAL, 1ST 70 INSTS.	3,004,440	2,798,107	2,453,599	2,156,573	646,248	880,754	1,397,250	80,208
71 U TEX HLTH SCI CTR S ANTO	19,341	17,251	13,972	11,535	0	7,830	11,511	0
72 SUNY AT BUFFALO	18,973	17,327	15,511	15,266	0	9,824	9,014	115
73 TEMPLE UNIVERSITY	18,521	15,149E	14,839E	13,745	0	10,779	7,742	0
74 UNIVERSITY OF VIRGINIA	18,471	16,415	14,869	13,07	0	9,099	9,327	45
75 U TEX MED BRNCH GALVESTON	18,272	17,612	16,041	13,83	0	6,211	5,671	6,390
76 U TEX HLTH SCI CTR HOUSTN	17,487	13,706	10,888	7,589	0	9,633	7,555	299
77 UNIV OF ILL MED CTR CHGO	17,485I	16,453	14,644	11,929	0	7,068I	8,989I	1,428I
78 RUTGERS THE ST UNIV OF NJ	17,241	14,478	13,785	14,476	7,158	9,826	257	0
79 SUNY AT STONY BROOK	17,045	14,370	11,704	9,879	0	10,166	6,608	271
80 UNIV OF ARK FAYETTEVILLE	17,015	7,530E	6,439E	6,537E	16,637	378	0	0
TOTAL, 1ST 80 INSTS.	3,184,291	2,948,392	2,586,392	2,274,436	670,043	961,588	1,563,904	88,756
81 NORTH DAKOTA STATE UNIV	16,911	14,253	12,277	9,923	7,510	9,401	0	0
82 THE OREG HLTH SCI UNIV	16,876	11,406I	12,753	10,320E	0	6,232	10,581	63
83 UNIV OF VT & ST AGRIC COL	16,666	16,449	14,062	12,363	2,771	5,445	7,400	1,050
84 TULANE UNIVERSITY	16,292	16,706	10,895	10,305	0	3,410	9,159	3,723
85 COL OF MED & DENT OF N J	16,123	14,589	12,394	9,897	0	7,930	8,193	0
86 UNIVERSITY OF NEW MEXICO	15,292	12,027	12,638	14,710	0	3,456	11,836	0
87 GEORGETOWN UNIVERSITY	14,921E	14,784E	10,615	10,705	0	5,506E	7,487E	1,928E
88 UNIV OF HAWAII-MANOA	14,502	14,598	15,539	14,047	5,557	5,285	975	2,685
89 SUNY UPSTATE MEDICAL CTR	14,476	6,345I	6,345E	5,875I	0	5,691	8,785	0
90 CLEMSON UNIVERSITY	14,380	11,902E	12,030	11,064	11,295	3,085	0	0
TOTAL, 1ST 90 INSTS.	3,340,730	3,081,451	2,705,939	2,383,645	697,176	1,017,025	1,528,320	98,205
91 UNIV OF P R-MAYAGUEZ	14,183I	13,340I	11,793	10,840	13,637I	349I	0	197I
92 WAYNE STATE UNIVERSITY	13,909	15,016	13,382	13,189	0	6,360	5,916	1,633
93 UNIV OF MD BALT PROF SCH	13,501I	12,703E	15,019	11,993	0	6,538I	6,799I	164I
94 UNIVERSITY OF IDAHO	13,322	16,056	10,214	8,77	10,802	2,025	495	0
95 UTAH STATE UNIVERSITY	13,196	11,208	9,716	6,83	8,066	5,130	0	0
96 INST OF AGRI UNIV OF TENN	13,138	12,971	15,711I	13,750I	13,138	0	0	0
97 MEDICAL COLLEGE OF WIS	12,741I	11,849I	10,655	8,482	0	2,943I	9,798I	0
98 SUNY DOWNSTATE MED CTR	12,510	13,533	10,799	10,357	0	4,667	7,843	0
99 WEST VIRGINIA UNIVERSITY	12,195	10,902	8,832	7,421	5,115	3,394	3,686	0
100 DARTMOUTH COLLEGE	11,314	10,717	7,002	6,459	0	866	10,448	0
TOTAL, 1ST 100 INSTS.	3,470,739	3,209,746	2,819,062	2,481,742	747,934	1,049,301	1,573,305	100,199
TOTAL, ALL OTHER INSTS.	499,069	462,511	398,711	350,781	90,421	240,609	147,695	20,344

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SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-53. -- FEDERALLY FINANCED R&D EXPENDITURES IN THE LIFE SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	LIFE SCIENCES TOTAL				AGRI-CULTURAL	BIO-LOGICAL	MEDICAL	
	1982	1981	1980	1979	SCIENCES	SCIENCES	SCIENCES	OTHER
TOTAL, ALL INSTITUTIONS	2,493,092	2,363,543	2,093,749	1,818,779	254,601	921,872	1,238,805	77,721
1 UNIV OF CAL SAN FRANCISCO	75,536	72,522	58,202	48,663	0	0	75,536	0
2 JOHNS HOPKINS UNIVERSITY	64,232	64,107	61,481	55,386E	0	21,205	34,796	8,231
3 UNIVERSITY OF WASHINGTON	63,978	63,369	57,659	51,487	6,100	18,138	38,578	1,162
4 UNIVERSITY OF MINNESOTA	61,989	56,674	50,061	44,427	7,282	11,479	42,768	460
5 HARVARD UNIVERSITY	61,796	57,838	50,412	45,062	0	39,535	22,201	0
6 COLUMBIA UNIV MAIN DIV	61,510	53,675	47,418	37,013	0	15,526	45,984	0
7 YALE UNIVERSITY	57,617	56,538E	48,367	40,845	137	25,357	32,123	0
8 UNIV OF PENNSYLVANIA	53,147	51,848	44,947	38,213	0	29,006	22,741	1,400
9 UNIV OF WIS-MADISON	51,944	49,349	45,391	40,897	5,786	18,049	27,910	199
10 STANFORD UNIVERSITY	48,085	47,469	43,328	39,994	0	3,152	44,933	0
TOTAL, 1ST 10 INSTS.	599,774	573,389	507,266	441,987	19,305	181,447	387,570	11,452
11 UNIV OF CAL LOS ANGELES	45,466	43,866	39,552	33,956	0	4,980	40,486	0
12 WASHINGTON UNIVERSITY	45,408	40,914	37,757	34,664	0	14,910	28,891	1,607
13 YESHIVA UNIVERSITY	44,493	40,280I	31,214	28,108	0	11,791	23,003	9,699
14 CORNELL UNIVERSITY	43,327	39,440	34,392	28,712	6,498	13,757	23,072	0
15 UNIV OF CAL SAN DIEGO	42,244	42,446	35,129	29,740	0	11,843	30,401	0
16 UNIVERSITY OF MICHIGAN	39,633	37,674	34,632	28,104	0	17,395	22,238	0
17 DUKE UNIVERSITY	39,614I	34,725	29,339	26,478	395I	15,044I	21,748I	2,427I
18 UNIVERSITY OF CHICAGO	37,217	35,504	31,639	28,852	0	18,292	17,428	1,497
19 UNIV OF CAL DAVIS	37,145	34,566	29,344	23,628	17,031	1,909	18,209	0
20 BAYLOR COL OF MEDICINE	35,852	34,054	31,211	26,304	0	16,403	19,449	0
TOTAL, 1ST 20 INSTS.	1,010,177	956,858	841,475	730,533	43,229	307,771	632,495	26,682
21 NEW YORK UNIVERSITY	35,378	35,452	32,756	30,211	0	10,532	18,766	6,080
22 UNIVERSITY OF ROCHESTER	31,151	29,374	27,688	23,747	0	14,687	15,564	900
23 UNIV ALABAMA BIRMINGHAM	30,199	29,029	25,098	22,389	0	5,818	23,756	625
24 UNIV OF NC AT CHAPEL HILL	28,536	28,129	24,233	16,636	0	14,402	14,134	0
25 UNIVERSITY OF COLORADO	27,971E	27,315E	26,399	19,985E	0	6,873E	20,373E	725
26 UNIVERSITY OF IOWA	27,951	26,847	24,632	19,298	0	8,095	19,197	659
27 UNIV OF SOUTHERN CAL	26,167	23,454	21,642	23,600	0	1,489	24,678	0
28 U TEX HLTH SCI CTR DALLAS	25,121	23,890	20,852	17,835	0	10,888	14,233	0
29 UNIV OF CAL BERKELEY	24,984	25,457	23,282	21,441	7,321	11,773	5,890	0
30 UNIVERSITY OF CONNECTICUT	24,415	21,931	19,315	16,518	108	11,334	12,849	144
TOTAL, 1ST 30 INSTS.	1,292,050	1,227,736	1,087,372	942,193	50,658	403,642	801,935	35,815
31 UNIVERSITY OF PITTSBURGH	24,233	18,467	14,202	13,515	0	3,017	17,516	3,700
32 BOSTON UNIVERSITY	23,842	22,519	18,909	15,976	0	991	22,851	0
33 MICHIGAN STATE UNIVERSITY	23,129	18,949	22,289	16,418	9,389	10,624	3,022	94
34 UNIVERSITY OF MIAMI	22,170	23,823	19,472	18,078	0	4,542	16,755	873
35 UNIVERSITY OF UTAH	22,011	22,204	17,946	17,465	0	11,921	10,090	0
36 UNIVERSITY OF ARIZONA	21,999	20,701	15,696	13,547	4,126	7,573	10,264	26
37 CUNY MT SINAI SCH OF MED	21,496	23,358	21,160	17,841	0	5,943	15,553	0
38 MASS INST OF TECHNOLOGY	21,312	19,476	16,170	14,795	0	20,709	603	0
39 UNIVERSITY OF FLORIDA	21,309	17,955	14,750E	16,269	6,332	8,768	5,633	576
40 CASE WESTERN RESERVE UNIV	21,282	20,383	18,483	15,203	0	7,392	13,890	0
TOTAL, 1ST 40 INSTS.	1,514,833	1,435,571	1,266,449	1,101,300	70,515	485,122	918,112	41,084
41 OHIO STATE UNIVERSITY	21,263	22,363	18,853	14,823	3,577	9,287	5,648	2,751
42 OREGON STATE UNIVERSITY	18,561	15,732	12,738	10,250	11,935	5,413	543	670
43 PENNSYLVANIA STATE UNIV	18,308	17,434	16,016	14,802	5,368	8,756	3,957	227
44 VIRGINIA COMMONWLTH UNIV	17,945	16,046	14,381	11,925	0	8,422	9,343	180
45 ROCKEFELLER UNIVERSITY	17,711	16,710	15,964	14,173	0	17,629	82	0
46 NORTHWESTERN UNIVERSITY	17,454	17,614	17,383	13,919	0	6,887	9,483	1,084
47 TEXAS A & M UNIVERSITY	17,066	16,426	12,970	10,355	13,174	1,830	1,892	170
48 EMORY UNIVERSITY	16,623	14,670	12,657	12,068	0	5,440	7,599	3,584
49 VANDERBILT UNIVERSITY	16,534	16,196	14,259	12,606	0	8,844	5,826	1,864
50 UNIV OF CAL IRVINE	16,511	15,929	13,516	9,712	0	5,079	11,432	0
TOTAL, 1ST 50 INSTS.	1,692,809	1,604,691	1,415,186	1,225,933	104,569	562,709	973,917	51,614

SEE FOOTNOTES AT END OF TABLE.

TABLE B-53. — FEDERALLY FINANCED R&D EXPENDITURES IN THE LIFE SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	1982	LIFE SCIENCES TOTAL 1981	1980	1979	AGRICULTURAL SCIENCES	BIOLOGICAL SCIENCES	MEDICAL SCIENCES	OTHER
51 UNIVERSITY OF GEORGIA	16,500	15,661	13,654	11,517	5,912	9,290	1,298	0
52 UNIVERSITY OF CINCINNATI	16,110	14,822	13,705	11,020	0	6,789	9,235	86
53 COLORADO STATE UNIVERSITY	15,522	16,781	13,279	13,576	6,094	7,882	1,546	0
54 PURDUE UNIVERSITY	15,445	15,028	13,604	11,519	4,399	8,770	2,276	0
55 UNIVERSITY OF VIRGINIA	15,179	14,032	13,105	11,860	0	8,112	7,035	32
56 U TEXAS SYSTEM CANCER CTR	15,025	16,288	15,851	17,042	0	3,189	11,440	396
57 INDIANA UNIVERSITY	14,303	12,849	11,237	10,687	0	6,118	8,142	43
58 U TEX HLTH SCI CTR HOUSTN	13,964	10,718	8,493	5,856	0	8,790	4,877	297
59 TEMPLE UNIVERSITY	13,860	11,983	11,303	10,635	0	8,794	5,066	0
60 U TEX HLTH SCI CTR S ANTO	13,319	11,887	10,158	8,152	0	5,537	7,782	0
TOTAL, 1ST 60 INSTS.	1,842,036	1,744,762	1,539,575	1,337,790	120,974	635,980	1,032,614	52,468
61 UNIV OF ILL URBANA	12,888	15,070	16,128	11,349	4,056	7,520	967	345
62 UNIV OF ILL MED CTR CHGO	12,814I	12,318	10,329	8,831	0	5,615I	5,880I	1,319I
63 SUNY AT BUFFALO	12,665	12,121	10,302	10,021	0	6,667	5,885	109
64 UNIV OF MISSOURI COLUMBIA	12,420	12,945	10,608	9,495	3,653	5,384	3,383	0
65 UNIV OF MD BALT PROF SCH	12,172I	11,700E	13,253	10,952	0	6,469I	5,539I	164I
66 SUNY AT STONY BROOK	11,641	10,793	8,265	7,054	0	6,943	4,513	185
67 UNIV OF VT & ST AGRIC COL	11,585	12,003	10,412	8,988	1,237	4,105	5,835	408
68 IOWA ST U OF SCI & TECH	11,132	9,376	9,368	8,621	4,580	5,168	399	985
69 UNIVERSITY OF KENTUCKY	11,132	10,325	9,499	9,567	5,729	574	4,829	0
70 COL OF MED & DENT OF N J	11,115	10,207	9,095	6,337	0	6,228	4,887	0
TOTAL, 1ST 70 INSTS.	1,961,600	1,861,518	1,646,834	1,428,905	140,229	690,653	1,074,735	55,983
71 LOUISIANA STATE UNIV	10,741	9,958	7,913	6,594	823	4,880	5,038	0
72 N C STATE UNIV AT RALEIGH	10,725I	9,312	8,451	7,343	8,043I	2,682I	0I	0
73 U TEX MED BRNCH GALVESTON	10,632	11,349	10,387	8,702	0	4,900	4,186	1,546
74 UNIVERSITY OF NEW MEXICO	9,973	10,632	11,032	10,319	0	2,239	7,734	0
75 GEORGETOWN UNIVERSITY	9,749	9,335	7,574	6,943	0	3,281	4,637	1,831
76 UNIVERSITY OF IDAHO	9,588	6,664	4,575	3,641	7,484	1,730	374	0
77 DARTMOUTH COLLEGE	9,514	9,425	6,400	5,814	0	803	8,711	0
78 THE OREG HLTH SCI UNIV	9,219	7,860I	8,755	8,408E	0	3,655	5,522	42
79 TUFTS UNIVERSITY	9,166I	8,767I	8,430	5,413I	0	4,875I	4,291I	0
80 TULANE UNIVERSITY	9,030	9,086	7,006E	6,594I	0	1,945	4,237	2,848
TOTAL, 1ST 80 INSTS.	2,059,937	1,953,906	1,727,357	1,498,676	156,579	721,643	1,119,465	62,250
81 GEORGE WASHINGTON UNIV	8,821	7,787	9,004	8,905	0	3,212	5,216	393
82 WAYNE STATE UNIVERSITY	8,816	9,251	8,651	8,812	0	4,355	3,359	1,102
83 UNIV OF CAL RIVERSIDE	8,543	8,699	5,352	4,137	5,556	1,940	1,047	0
84 SUNY DOWNSTATE MED CTR	8,467	9,219	7,358	7,752	0	3,174	5,293	0
85 MEDICAL COLLEGE OF WIS	7,741I	7,404I	6,664	5,239	0	2,092I	5,649I	0
86 WASHINGTON STATE UNIV	7,443	5,845	8,217	6,856	3,846	1,620	1,977	0
87 MED UNIV OF SO CAROLINA	7,420	6,950	6,774	5,395	0	4,464	2,947	9
88 ALBANY MEDICAL COLLEGE	7,251	5,678	5,351	5,434	0	2,817	4,434	0
89 VA POLYTECH INST & ST U	7,171	7,090	6,350	5,428	5,736	1,080	355	0
90 UNIV TENN CTR HEALTH SCI	6,995	7,831	8,182	6,440	0	2,450	4,143	402
TOTAL, 1ST 90 INSTS.	2,138,605	2,029,660	1,799,260	1,563,074	171,717	748,847	1,153,885	64,154
91 THOMAS JEFFERSON UNIV	6,982	7,680	7,739E	7,514	0	1,403	5,351	228
92 UNIV OF NEBRASKA-LINCOLN	6,982	5,712	4,311	2,763	5,411	1,096	475	0
93 HOWARD UNIVERSITY	6,868	4,711	5,521	3,293	0	2,290	579	3,999
94 RUSH UNIVERSITY	6,857	6,206	5,963	5,232	0	1,732	4,736	389
95 U MASS MED SCHL WORCESTER	6,731	5,200	2,404	3,492	0	5,247	1,484	0
96 UNIV OF HAWAII-MANOA	6,613	7,054	8,256	7,624	368	3,627	840	1,778
97 UNIVERSITY OF KANSAS	6,477I	9,263I	8,047I	4,617I	79I	3,423I	2,285I	90I
98 MEDICAL COL OF GEORGIA	6,304	5,956	5,123	4,752	0	3,487	2,779	38
99 WEST VIRGINIA UNIVERSITY	6,105	5,910	5,036	4,695	3,358	1,935	812	0
100 BROWN UNIVERSITY	6,077	4,830	4,500	3,309	0	1,212	4,646	219
TOTAL, 1ST 100 INSTS.	2,204,601	2,092,182	1,856,160	1,610,365	180,933	774,299	1,178,472	70,897
TOTAL, ALL OTHER INSTS.	288,491	271,361	237,589	208,414	73,758	147,576	60,333	6,824

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-54. — R&D EXPENDITURES IN THE BIOLOGICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	1,285,910	1,188,498	1,031,037	914,706	921,875	866,297	762,897	664,675
1 HARVARD UNIVERSITY	52,201E	44,736E	39,566E	34,979E	39,535	34,033	29,950	26,477
2 UNIV OF PENNSYLVANIA	36,158	31,391	28,620	23,550	29,006	27,016	22,736	18,674
3 ROCKEFELLER UNIVERSITY	35,849	32,325	29,383	27,299	27,629	24,567	15,856	13,999
4 UNIV OF WISC-MADISON	29,607	26,702	24,392	21,842	18,049	16,374	14,791	13,319
5 YALE UNIVERSITY	28,350	25,253	21,201	18,478	25,357	22,728E	19,714	17,000
6 MASS INST OF TECHNOLOGY	25,541	22,271	19,033	17,348	20,705	18,134	15,464	13,868
7 JOHNS HOPKINS UNIVERSITY	24,316	24,007	26,834	20,195E	21,205	21,090	24,212	17,224E
8 CORNELL UNIVERSITY	23,872E	18,806	17,334	14,597	13,757	12,830	10,508	8,902
9 UNIVERSITY OF MICHIGAN	23,314	21,054	18,301	15,431	17,395	15,582	13,623	10,714
10 UNIVERSITY OF CHICAGO	21,375E	19,916	18,442E	17,589E	18,292	17,775	16,253	14,534
TOTAL, 1ST 10 INSTS.	300,583	266,361	243,106	211,358	220,934	202,170	183,107	154,711
11 BAYLOR COL OF MEDICINE	21,344	19,765	15,110	14,051	16,403	15,508	12,651	11,333
12 UNIVERSITY OF WASHINGTON	20,101	17,869	15,847	14,164	18,138	16,194	14,027	12,523
13 UNIVERSITY OF CONNECTICUT	19,317	17,558	16,405	15,199	11,314	10,759	10,216	9,095
14 WASHINGTON UNIVERSITY	19,280	16,771	16,586	16,825	14,910	13,231	12,514	12,795
15 OHIO STATE UNIVERSITY	18,808	17,532	11,724	8,330	9,287	8,987	7,174	4,603
16 UNIVERSITY OF ROCHESTER	17,791	17,576	17,170	15,969	14,687	13,833	13,291	12,168
17 UNIV OF CAL SAN DIEGO	17,484	17,709	13,095E	11,043E	11,843	12,108	10,187E	8,625E
18 UNIVERSITY OF MINNESOTA	17,109	16,470	16,572	13,696	11,479	11,415	10,740	10,578
19 COLUMBIA UNIV MAIN DIV	16,557	13,861	12,508	11,090	15,526	12,710	11,321	9,356
20 UNIVERSITY OF FLORIDA	15,633	12,196	4,043E	3,486	8,768	6,558	2,012E	2,220
TOTAL, 1ST 20 INSTS.	484,013	433,668	382,566	335,161	353,289	323,593	287,240	248,006
21 DUKE UNIVERSITY	15,610I	14,359	13,332	11,320	15,044I	13,187	12,683	10,438
22 UNIV OF NC AT CHAPEL HILL	15,589	15,997	13,919	9,849	14,402	14,483	12,712	8,823
23 MICHIGAN STATE UNIVERSITY	14,726	13,384	13,653	10,357	10,624	8,312	9,027	6,336
24 UNIV OF CAL BERKELEY	14,462	14,156	11,420E	10,159E	11,773	11,519	10,477E	9,648E
25 YESHIVA UNIVERSITY	13,710	11,913I	11,202	9,184	11,791	10,675I	8,272	7,448
26 NEW YORK UNIVERSITY	13,347	13,127	10,536	9,934	10,532	11,112	9,406	7,311
27 PURDUE UNIVERSITY	13,235	14,147	12,036	10,337	8,770	8,558	7,492	6,359
28 U TEX HLTH SCI CTR DALLAS	13,184	11,699	10,264	8,753	10,888	9,834	8,420	7,535
29 UNIVERSITY OF GEORGIA	13,110	11,735	9,986	10,714	9,290	8,513	7,600	6,495
30 UNIVERSITY OF UTAH	13,021	10,391	8,764	6,905	11,921	9,472	7,931	6,188
TOTAL, 1ST 30 INSTS.	624,007	564,576	497,678	432,673	468,324	429,258	381,260	324,491
31 UNIVERSITY OF ARIZONA	12,456	10,938	9,418	7,828	7,573	6,842	5,893	4,794
32 UNIVERSITY OF IOWA	11,145	11,249	9,844	7,577	8,095	8,572	7,600	6,060
33 TEMPLE UNIVERSITY	10,779	8,251E	7,282E	6,914E	8,794	6,955	6,034	5,734
34 COLORADO STATE UNIVERSITY	10,731	11,306	8,902	8,863	7,882	8,501	6,576	6,475
35 IOWA ST U OF SCI & TECH	10,569	8,540	6,635	5,287	5,168	3,855	2,826	2,376
36 VANDERBILT UNIVERSITY	10,199	10,049	9,202	5,204	8,844	8,781	8,217	4,401
37 SUNY AT STONY BROOK	10,166	8,466	6,841	5,802	6,943	6,542	4,884	4,143
38 PENNSYLVANIA STATE UNIV	9,916	9,548	8,742	8,024	8,756	8,087	7,615	7,138
39 SUNY AT BUFFALO	9,844	8,824	7,777	6,799	6,667	6,558	5,576	4,845
40 UNIV OF MISSOURI COLUMBIA	9,836	10,348	6,194	4,628	5,384	5,893	4,074	1,710
TOTAL, 1ST 40 INSTS.	729,648	662,095	578,515	499,599	542,436	499,844	440,555	372,167
41 RUTGERS THE ST UNIV OF NJ	9,826	8,668	6,966	7,505	4,117	3,891E	3,673	3,400
42 VIRGINIA COMMONWLTH UNIV	9,669	8,693	7,398	6,556	8,422	7,383	6,107	5,275
43 U TEX HLTH SCI CTR HOUSTN	9,633	7,572	5,638	4,151	8,790	7,035	5,213	3,815
44 OREGON STATE UNIVERSITY	9,617	9,265	7,837	7,108	5,413	5,389	4,311	3,937
45 CASE WESTERN RESERVE UNIV	9,564	9,110	8,570	7,721	7,392	6,995	6,310	5,584
46 U TEXAS SYSTEM CANCER CTR	9,442	9,891	7,182	6,882	3,189	3,675	2,797	2,808
47 NORTH DAKOTA STATE UNIV	9,401	7,186	7,185	5,698	2,169	1,709	1,052	1,003
48 N C STATE UNIV AT RALEIGH	9,219I	8,354	7,051	6,741	2,682I	2,328	2,113	1,836
49 UNIVERSITY OF CINCINNATI	9,156	12,090	11,639	9,365	6,789	7,805	8,039	6,123
50 UNIVERSITY OF VIRGINIA	9,099	8,522	6,335	6,224	8,112	7,749	5,845	5,778
TOTAL, 1ST 50 INSTS.	824,274	751,446	654,316	567,550	599,505	533,803	486,015	411,726

SEE FOOTNOTES AT END OF TABLE.

TABLE B-54. -- R&D EXPENDITURES IN THE BIOLOGICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 UNIV OF ILL URBANA	8,935	8,240	7,184	6,074	7,520	7,361	6,492	5,266
52 LOUISIANA STATE UNIV	8,930	7,912	6,568	5,116	4,880	4,653	3,669	2,747
53 UNIVERSITY OF COLORADO	8,542E	8,467E	7,595	11,967E	6,873E	6,202E	6,034	9,238E
54 INDIANA UNIVERSITY	8,508	6,936	5,877	5,422	6,718	5,705	4,775	4,384
55 NORTHWESTERN UNIVERSITY	8,006	7,573	7,434	4,760	6,887	6,443	6,484	3,886
56 UNIV OF TEXAS AT AUSTIN	7,973	7,707	6,911	5,757	4,654	5,453	4,907	4,250
57 COL OF MED & DENT OF N J	7,930	7,783	5,572	4,529	6,228	5,409	4,290	2,187
58 U TEX HLTH SCI CTR S ANTO	7,830	7,087	6,964	6,064	5,537	5,408	5,459	4,736
59 UNIVERSITY OF MIAMI	7,490	6,201	6,077	6,102	4,542	5,138	4,902	4,277
60 UNIV ALABAMA BIRMINGHAM	7,489	7,954	6,326	4,467	5,818	6,818	5,892	4,018
TOTAL, 1ST 60 INSTS.	905,907	827,352	720,820	627,807	658,562	612,993	539,083	457,685
61 U MASS MED SCHL WORCESTER	7,427	5,724	3,118	4,103	5,247	4,047	2,029	2,966
62 CUNY MT SINAI SCH OF MED	7,421	6,681	6,236	4,[illegible]	5,943	5,908	5,199	4,216
63 CALIFORNIA INST OF TECH	7,318	6,776	6,206	5,665	5,774	5,734	5,317	4,693
64 UNIV OF ILL MED CTR CHGO	7,068I	6,664	5,791	4,393	5,615I	5,798	4,069	3,153
65 UNIVERSITY OF OKLAHOMA	6,747	6,549	3,692	2,631	3,005	2,154	2,820	1,883
66 UNIV OF MD BALT PROF SCH	6,538I	6,270E	7,422	6,361	6,469I	6,218E	7,039	5,658
67 WAYNE STATE UNIVERSITY	6,360	7,843	7,164	6,372	4,355	4,702	4,688	4,[illegible]
68 CARNEGIE-MELLON UNIV	6,200	5,905	6,226	5,274	3,056	2,894	3,447	1,487
69 UNIV OF CAL LOS ANGELES	6,284	6,009	5,142E	4,313E	4,980	4,798	4,351E	3,735E
70 THE OREG HLTH SCI UNIV	6,232	3,264I	3,644	3,185E	3,695	2,577I	2,870	1,273E
TOTAL, 1ST 70 INSTS.	973,462	889,056	775,461	674,544	706,661	638,173	579,912	490,966
71 UNIV OF CAL DAVIS	6,226	5,957	4,6[illegible]E	3,828E	1,909	1,801	1,467E	1,181E
72 U TEX MED BRNCH GALVESTON	6,211	6,781	5,623	4,581	4,900	5,548	4,615	3,806
73 OKLAHOMA STATE UNIVERSITY	6,020I	5,268I	3,264I	3,127I	1,145I	799I	1,157I	549I
74 THE MEDICAL COL OF PENNA	5,867	3,966	2,651	2,716	3,470	3,317	2,381	2,400
75 EMORY UNIVERSITY	5,763	4,190	3,131	2,874	5,440	3,896	2,982	2,736
76 SUNY UPSTATE MEDICAL CTR	5,691	1,570I	1,570E	1,334I	3,053	997I	997E	1,129I
77 GEORGETOWN UNIVERSITY	5,506E	5,593E	4,333	4,200	3,281	3,313	2,929	3,106
78 UNIV OF CAL IRVINE	5,466	5,200	3,998E	3,017E	5,079	4,825	3,718E	2,914E
79 MED UNIV OF SO CAROLINA	5,458	4,739	4,615	3,178	4,464	3,823	3,806	2,763E
80 UNIV OF VT & ST AGRIC COL	5,445	5,311	5,063	4,628	4,105	4,065	4,225	3,957
TOTAL, 1ST 80 INSTS.	1,031,055	937,631	814,372	708,027	743,507	690,557	608,189	515,407
81 TUFTS UNIVERSITY	5,344I	5,038I	4,843	3,518I	4,875I	4,669I	4,482	2,940I
82 UNIV OF HAWAII-MANOA	5,285	5,442	4,702	4,440	3,627	3,884	3,103	2,967
83 UTAH STATE UNIVERSITY	5,130	4,484	3,861	2,552	2,414	2,631	2,472	1,653
84 U OF NEB MED CTR AT OMAHA	4,922	5,325	6,040	5,895	3,310	4,041	4,536	4,407
85 MONTANA STATE UNIVERSITY	4,861	2,588	1,105	766	2,129	1,349	676	372
86 FLORIDA STATE UNIVERSITY	4,857	4,217	3,861	3,196	2,590	2,281	2,051	1,771
87 UNIV OF MASS AT AMHERST	4,731	4,028	2,329	3,022	2,973	2,642	1,412	2,091
88 PRINCETON UNIVERSITY	4,724	4,645	3,609	3,574	3,572	3,769	2,431	2,715
89 SUNY DOWNSTATE MED CTR	4,667	3,773	3,856	3,077	3,174	2,566	2,185	2,307
90 KANS ST U - AG & APP SCI	4,283	3,830	3,054	2,496	2,638	2,418	1,766	1,375
TOTAL, 1ST 90 INSTS.	1,079,859	981,001	851,632	740,563	774,809	720,800	633,303	538,005
91 GEORGE WASHINGTON UNIV	4,223E	3,796	1,189	2,041	3,212	3,371	1,174	2,215
92 UNIVERSITY OF KANSAS	4,077I	5,157I	4,548I	2,161I	3,423I	4,896I	4,254I	2,441I
93 UNIV OF CAL RIVERSIDE	3,879	3,346	2,171E	1,841E	1,940	1,864	1,124E	869E
94 STANFORD UNIVERSITY	3,859	3,539	2,858	12,514	3,152	3,057	2,590	11,378
95 UNIV OF ALASKA FAIRBANKS	3,805	3,865	4,127	2,927	1,642	1,689	2,167	1,824
96 MEDICAL COL OF GEORGIA	3,748	3,117	2,434	2,438	3,487	2,990	2,357	2,375
97 UNIVERSITY OF PITTSBURGH	3,655	8,977	7,063	6,462	3,017	7,803	6,189	5,497
98 ALBANY MEDICAL COLLEGE	3,639	3,700	3,426	3,066	2,817	1,700	1,605	1,632
99 U TENNESSEE KNOXVILLE	3,601	2,109I	1,584I	1,584	2,895	1,858I	1,357I	1,357
100 UNIVERSITY OF MISSISSIPPI	3,575E	3,503	2,890	1,537E	2,124E	2,424	2,123	1,048E
TOTAL, 1ST 100 INSTS.	1,117,920	1,022,110	883,912	778,734	802,518	752,452	658,243	568,640
TOTAL, ALL OTHER INSTS.	171,990	166,388	147,125	136,072	119,357	113,845	104,654	96,035

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-55. -- R&D EXPENDITURES IN THE MEDICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	1,721,004	1,599,409	1,414,356	1,237,556	1,238,805	1,187,297	1,056,525	914,905
1 UNIV OF CAL SAN FRANCISCO	95,282	89,209	70,400E	53,493E	75,536	72,522	58,202E	48,663E
2 UNIVERSITY OF MINNESOTA	63,561	55,877	47,208	39,218	42,768	38,792	33,867	27,250
3 STANFORD UNIVERSITY	56,190	48,828	43,753	30,078	44,933	44,412	40,738	27,618
4 UNIV OF CAL LOS ANGELES	55,070	52,130	46,282E	38,814E	40,486	39,068	35,201E	30,221E
5 COLUMBIA UNIV MAIN DIV	50,705	48,215	45,311	35,910	45,984	40,965	36,097	27,657
6 UNIVERSITY OF WASHINGTON	49,702	43,918	44,478	37,294	38,578	39,824	36,783	31,529
7 UNIV OF SOUTHERN CAL	43,814	39,502	34,466	28,292	24,678	22,356	20,727	20,003
8 UNIV OF WIS-MADISON	41,892	38,681	36,887	33,460	27,910	26,801	25,1[illegible]	22,59[illegible]
9 YALE UNIVERSITY	40,038	38,157	32,252	28,773	32,123	33,525E	28,286	23,845
10 JOHNS HOPKINS UNIVERSITY	39,031	42,186	41,092	45,122E	24,79[illegible]	37,439	35,139	38,162E
TOTAL, 1ST 10 INSTS.	535,295	501,703	442,129	375,410	407,792	395,704	350,166	297,574
11 UNIV OF CAL SAN DIEGO	36,514	35,594	26,586E	22,422E	30,401	30,338	24,942E	21,115E
12 CORNELL UNIVERSITY	35,647E	30,955	26,667	22,228	23,072	20,650	19,134	15,401
13 UNIVERSITY OF MICHIGAN	35,359	36,783	32,360	27,484	22,23[illegible]	22,092	21,609	17,390
14 WASHINGTON UNIVERSITY	34,934	30,819	28,711	24,646	28,891	25,908	23,387	19,961
15 UNIV OF PENNSYLVANIA	32,630	31,445	28,815	26,383	22,741	23,707	21,409	18,519
16 HARVARD UNIVERSITY	29,314E	31,432E	27,033E	24,550E	22,201	23,305	20,462	18,585
17 NEW YORK UNIVERSITY	29,[illegible]26	26,696	25,883	26,697	18,766	17,403	17,838	19,608
18 UNIV ALABAMA BIRMINGHAM	27,503	25,130	23,824	22,196	23,756	21,724	18,738	18,315
19 BAYLOR COL OF MEDICINE	27,317	24,968	22,798	19,625	19,449	18,466	18,560	14,971
20 YESHIVA UNIVERSITY	26,748	23,238I	21,854	20,274	23,003	20,824I	16,137	15,443
TOTAL, 1ST 20 INSTS.	850,487	798,763	706,657	611,915	642,310	620,627	551,782	477,882
21 UNIVERSITY OF COLORADO	26,573E	26,466E	25,492	10,730E	20,373E	19,964E	18,994	7,578E
22 BOSTON UNIVERSITY	25,102	22,709	18,917	16,546	22,851	20,876	17,681	15,264
23 U TEXAS SYSTEM CANCER CTR	24,463	23,010	20,862	21,643	11,440	12,012	12,148	13,463
24 UNIVERSITY OF IOWA	22,349	22,087	20,132	16,655	19,197	17,672	16,172	13,107
25 UNIVERSITY OF MIAMI	23,738	23,252	18,888	17,702	16,755	17,980	14,275	13,13[illegible]
26 UNIVERSITY OF PITTSBURGH	23,096	7,907	6,229	6,695	17,516	5,753	4,673	5,265
27 DUKE UNIVERSITY	22,747I	21,330	15,698	17,247	21,748I	19,064	14,570	14,204
28 CUNY MT SINAI SCH OF MED	22,376	22,113	20,460	18,131	15,553	17,450	15,961	13,623
29 UNIVERSITY OF CHICAGO	22,282E	21,612E	19,128E	21,214E	17,428	17,729	15,386	14,318
30 UNIVERSITY OF ROCHESTER	22,108	20,459	18,818	15,718	15,564	14,339	12,930	10,562
TOTAL, 1ST 30 INSTS.	1,087,321	1,009,508	891,281	774,196	820,735	783,466	694,572	598,497
31 UNIV OF CAL DAVIS	21,249	20,571	15,155E	12,440E	18,209	17,340	14,672E	11,814E
32 U TEX HLTH SCI CTR DALLAS	18,874	18,169	16,303	13,823	14,233	14,056	12,432	10,400
33 UNIVERSITY OF CONNECTICUT	18,50[illegible]	15,833	13,736	10,545	12,849	10,939	9,037	7,298
34 CASE WESTERN RESERVE UNIV	17,347	17,754	17,594	15,049	13,090	13,388	12,173	9,619
35 NORTHWESTERN UNIVERSITY	16,422	15,829	16,018	13,925	9,[illegible]33	9,855	9,53[illegible]	8,594
36 UNIV OF NC AT CHAPEL HILL	16,158	16,928	13,978	9,574	14,134	13,646	11,521	[illegible],013
37 UNIVERSITY OF ARIZONA	15,583	13,598	10,771	9,045	10,26[illegible]	9,643	7,805	6,864
38 UNIV OF CAL IRVINE	15,408	15,281	11,992E	9,052E	11,432	11,104	9,798E	6,798E
39 INDIANA UNIVERSITY	14,491	11,252	10,162	9,047	8,142	7,011	6,462	6,296
40 UNIVERSITY OF CINCINNATI	14,[illegible]54	14,122	13,098	11,233	9,235	7,001	5,666	6,853
TOTAL, 1ST 40 INSTS.	1,259,[illegible]13	1,168,845	1,030,088	887,929	942,606	897,449	793,671	678,846
41 UNIVERSITY OF UTAH	12,[illegible]16	14,909	11,632	12,948	10,090	12,732	10,015	11,277
42 OHIO STATE UNIVERSITY	12,[illegible]46	10,854	10,103	10,341	5,648	5,862	5,306	5,289
43 UNIVERSITY OF FLORIDA	12,150	12,136	13,723E	11,832	5,633	5,855	5,449E	6,010
44 UNIVERSITY OF NEW MEXICO	11,[illegible]36	8,174	9,052	11,474	7,734	7,576	7,959	7,663
45 U TEX HLTH SCI CTR S ANTO	11,511	10,164	7,008	5,471	7,782	6,479	4,699	3,416
46 VIRGINIA COMMONWLTH UNIV	11,170	10,482	10,279	8,082	9,343	8,526	8,242	6,650
47 THE OREG HLTH SCI UNIV	10,581	8,142I	9,109	7,135E	5,522	5,233I	5,885	7,135E
48 DARTMOUTH COLLEGE	10,448	9,332	1,242	1,303	8,711	8,075	1,023	1,021
49 EMORY UNIVERSITY	10,379	9,806	8,346	7,987	7,599	7,411	6,[illegible]68	6,630
50 MEDICAL COLLEGE OF WIS	9,798I	9,092I	8,175	6,397	5,679I	5,403I	4,8[illegible]5	3,543
TOTAL, 1ST 50 INSTS.	1,368,348	1,271,936	1,118,757	970,899	1,016,317	970,651	853,695	737,480

SEE FOOTNOTES AT END OF TABLE.

TABLE B-55. -- R&D EXPENDITURES IN THE MEDICAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 UNIVERSITY OF VIRGINIA	9,327	7,843	8,534	6,850	7,035	6,345	7,260	6,022
52 TULANE UNIVERSITY	9,159	8,600	4,536	4,290	4,237	3,661	2,917E	2,420I
53 SUNY AT BUFFALO	9,014	8,411	7,734	8,465	5,889	5,493	4,726	5,176
54 UNIV OF ILL MED CTR CHGO	8,789I	8,404	7,593	7,536	5,880I	5,652	5,160	5,678
55 SUNY UPSTATE MEDICAL CTR	6,785	3,746I	3,746E	3,620I	2,179	2,379I	2,379E	1,946I
56 UNIV OF MISSOURI COLUMBIA	8,403	8,748	9,694	10,290	3,383	3,308	4,847	4,551
57 COL OF MED & DENT OF N J	8,193	6,801	6,822	5,368	4,887	4,798	4,805	3,150
58 VANDERBILT UNIVERSITY	8,022	7,045	3,766	3,833	5,826	5,060	2,664	2,524
59 SUNY DOWNSTATE MED CTR	7,843	9,760	6,943	7,280	5,293	6,653	5,173	5,445
60 TEMPLE UNIVERSITY	7,742	6,898E	7,557E	6,831E	5,066	5,028	5,269	4,901
TOTAL, 1ST 60 INSTS.	1,453,825	1,348,194	1,185,682	1,035,262	1,065,992	1,018,928	898,895	779,362
61 ALBANY MEDICAL COLLEGE	7,558	8,466	7,994	7,455	4,434	3,978	3,746	3,803
62 U TEX HLTH SCI CTR HOUSTN	7,555	5,780	4,810	3,237	4,877	3,333	2,881	1,870
63 GEORGETOWN UNIVERSITY	7,487E	7,943E	5,204	5,807	4,637	4,962	3,570	3,143
64 RUSH UNIVERSITY	7,446	7,468	5,605	5,352	4,736	4,531	3,839	3,727
65 UNIV OF VT & ST AGRIC COL	7,400	8,070	5,901	5,203	5,835	6,711	5,033	4,121
66 LOUISIANA STATE UNIV	7,239	6,414	5,308	4,263	5,038	4,716	3,939	3,600
67 THOMAS JEFFERSON UNIV	7,162	7,348	7,625E	7,403	5,351	5,498	6,191E	6,011
68 UNIVERSITY OF KENTUCKY	7,043	6,077	6,355	6,334	4,829	4,822	4,576	4,580
69 UNIV OF CAL BERKELEY	6,843	8,077	8,423E	5,714E	5,859	6,832	6,786E	5,714E
70 UNIV OF MD BALT PROF SCH	6,799I	6,275E	7,411	5,635	5,539I	5,324E	6,028	4,912
TOTAL, 1ST 70 INSTS.	1,526,357	1,420,112	1,248,318	1,091,385	1,117,158	1,069,642	944,984	820,943
71 SUNY AT STONY BROOK	6,408	5,567	3,675	2,897	4,513	3,990	2,623	2,068
72 BROWN UNIVERSITY	5,993	4,658	4,300	3,594	3,646	3,528	3,506	2,753
73 TUFTS UNIVERSITY	5,951I	5,433I	5,225	4,102I	4,221I	4,105I	3,948	2,473I
74 WAYNE STATE UNIVERSITY	5,916	5,765	5,289	5,829	3,859	3,500	3,330	3,912
75 U TEX MED BRNCH GALVESTON	5,671	5,826	5,981	5,331	4,186	4,364	4,584	3,847
76 HAHNEMANN MED COL & HOSP	5,598	4,557	3,814E	2,401	4,717	3,858	3,066	1,797
77 UNIV TENN CTR HEALTH SCI	5,457	6,049	6,594E	5,645	4,143	4,869	5,662E	4,281
78 MICHIGAN STATE UNIVERSITY	5,324	4,337	9,367	7,375	3,022	2,307	4,668	3,566
79 PENNSYLVANIA STATE UNIV	5,256	6,072	5,117	4,548	3,957	4,380	3,681	3,318
80 GEORGE WASHINGTON UNIV	5,216E	4,925	8,978	7,935	5,216	4,044	7,678	6,510
TOTAL, 1ST 80 INSTS.	1,583,347	1,473,301	1,306,858	1,141,042	1,159,208	1,108,587	987,724	855,468
81 NEW YORK MEDICAL COLLEGE	5,196	5,056	4,485E	4,485	4,261	4,500	3,739E	3,739
82 UNIVERSITY OF MISSISSIPPI	4,819E	4,722	3,447	3,556E	2,379E	2,715	1,411	1,799E
83 UNIF SERV UNIV OF HLTH SC	4,645	3,688	2,353	1,724	4,645	3,688	2,853	1,004
84 TEXAS A & M UNIVERSITY	4,545	4,191	3,235	2,619	1,892	2,465	1,672	1,041
85 U OF ARKANSAS MED SCI CAM	4,171	3,859	4,652	3,777	2,603	2,805	3,473	2,946
86 MED UNIV OF SO CAROLINA	4,051	4,033	4,000	3,027	2,947	3,061	2,968	2,672E
87 UNIVERSITY OF GEORGIA	3,890	3,879	3,287	2,785	1,256	1,229	1,181	742
88 PURDUE UNIVERSITY	3,843	4,546	3,954	3,563	2,276	2,532	2,239	2,070
89 UNIV OF SOUTH ALABAMA	3,702	3,103	537	451	2,862	2,297	314	247
90 UNIVERSITY OF OKLAHOMA	3,691	4,988	2,479	2,571	1,409	1,923	1,847	2,070
TOTAL, 1ST 90 INSTS.	1,625,900	1,515,666	1,339,791	1,168,880	1,185,780	1,135,802	1,009,421	873,758
91 WEST VIRGINIA UNIVERSITY	3,686	3,188	2,273	1,804	812	988	827	867
92 MED COL OF OHIO AT TOLEDO	3,533I	3,325E	3,325	2,643	2,532I	2,434E	2,434	2,076
93 UNIVERSITY OF LOUISVILLE	3,483	2,966	3,140	3,191	2,066	1,937	2,213	2,053
94 WRIGHT STATE UNIVERSITY	3,435	3,474	2,987	2,905	1,993	2,128	2,000	1,995
95 MEDICAL COL OF GEORGIA	3,337	3,232	2,993	2,566	2,779	2,901	2,707	2,319
96 UNIVERSITY OF KANSAS	3,284I	4,284I	3,762I	2,492I	2,885I	4,125I	3,583I	2,056I
97 UNIV OF P R-MED SCI CMPUS	3,150I	3,402I	2,717I	2,378I	3,125I	3,004I	2,717I	2,364I
98 UNIV OF SOUTH CAROLINA	3,120	1,803I	1,602E	1,540	1,586	1,401I	1,267E	1,218
99 BRANDEIS UNIVERSITY	3,011	0	0	0	2,276	0	0	0
100 WAKE FOREST UNIVERSITY	2,934I	2,644E	2,518E	2,380E	1,678I	1,605E	1,534E	1,430E
TOTAL, 1ST 100 INSTS.	1,658,873	1,543,598	1,365,108	1,190,779	1,207,512	1,156,329	1,028,703	890,136
TOTAL, ALL OTHER INSTS.	62,131	55,911	49,248	46,777	31,293	30,972	27,822	24,769

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-56. — R&D EXPENDITURES IN PSYCHOLOGY AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	131,856	128,560	111,177	100,531	89,105	92,451	81,053	72,257
1 UNIVERSITY OF MICHIGAN	8,252	5,619	4,045	4,714	3,477	3,533	2,292	2,347
2 UNIV OF WIS-MADISON	6,421	6,372	6,232	5,435	5,465	5,392	5,169	4,453
3 UNIVERSITY OF KANSAS	4,812I	5,619I	5,008I	3,904I	3,586I	5,130I	4,457I	2,557I
4 ROCKEFELLER UNIVERSITY	4,338	3,832	3,760	3,960	1,675	2,485	1,898	1,881
5 UNIV OF CAL BERKELEY	3,898	3,511	2,708	2,204	1,900	1,929	1,906	1,510
6 MASS INST OF TECHNOLOGY	3,559	2,832	2,572	1,982	3,409	2,703	2,449	1,872
7 UNIV OF CAL LOS ANGELES	3,439	3,432	2,934	2,766	3,111	3,187	2,780	2,631
8 UNIVERSITY OF MINNESOTA	3,377	3,842	3,907	3,408	2,425	2,837	3,304	2,854
9 UNIVERSITY OF CONNECTICUT	3,251	3,759	3,761	2,896	1,773	2,200	2,249	1,688
10 UNIVERSITY OF COLORADO	3,091E	3,064E	3,595	2,197	2,360E	2,305E	2,597	1,590
TOTAL, 1ST 10 INSTS.	44,438	41,882	38,526	33,456	29,711	30,701	29,101	23,383
11 UNIV OF SOUTHERN CAL	2,907	2,575	2,383	454	1,712	1,860	1,938	380
12 RUTGERS THE ST UNIV OF NJ	2,904	2,652	2,365	1,804	1,791	1,706	1,510	1,401
13 UNIV OF NC AT CHAPEL HILL	2,874	3,256	287	369	1,868	2,203	283	364
14 STANFORD UNIVERSITY	2,544	2,333	2,208	1,731	1,716	1,643	1,510	1,124
15 UNIV OF ILL URBANA	2,514	2,448	2,039	1,948	2,006	2,103	1,594	1,598
16 CORNELL UNIVERSITY	2,233E	2,474	2,280	2,155	972	1,193	912	912
17 UNIVERSITY OF WASHINGTON	2,078	1,962	1,652	1,381	1,821	1,729	1,176	1,039
18 UNIV OF CAL SAN DIEGO	1,986	1,665	715	693	1,645	1,289	706	690
19 INDIANA UNIVERSITY	1,864	2,462	1,311	1,020	1,464	1,246	989	839
20 UNIVERSITY OF ROCHESTER	1,709	1,638	1,199	943	789	1,036	792	639
TOTAL, 1ST 20 INSTS.	68,101	64,347	54,775	45,954	44,895	46,709	40,511	32,369
21 FLORIDA STATE UNIVERSITY	1,699	1,734	1,594	1,367	815	866	783	609
22 ST JOHN'S UNIVERSITY (NY)	1,650	1,339	710	660	0	0	0	0
23 YALE UNIVERSITY	1,596	1,485	1,243	1,658	1,031	981	911	1,404
24 UNIVERSITY OF DAYTON	1,590	5I	4	4	1,385	2I	1	4
25 HARVARD UNIVERSITY	1,410E	1,885E	1,785E	1,664E	1,068	1,428	1,351	1,262
26 UNIVERSITY OF DENVER	1,381	1,000I	853	704	984	835I	725	622
27 CARNEGIE-MELLON UNIV	1,360	1,370	1,093	847	1,142	1,078	812	745
28 UNIV OF MASS AT AMHERST	1,286	1,142	757	891	1,025	912	575	756
29 NEW YORK UNIVERSITY	1,202	1,032	897	643	954	776	556	455
30 PRINCETON UNIVERSITY	1,173	1,396	1,266	1,072	1,080	1,189	1,084	911
TOTAL, 1ST 30 INSTS.	82,456	76,735	64,977	55,459	54,379	54,726	47,309	39,137
31 THE WRIGHT INSTITUTE	1,171	1,663	1,461	968	796	1,566	1,392	922
32 UNIVERSITY OF OKLAHOMA	1,163	1,708	569	520	783	791	409E	340
33 UNIV OF TEXAS AT AUSTIN	1,132	1,689	1,494	1,262	886	1,220	1,146	971
34 UNIV OF PENNSYLVANIA	1,131	1,153	1,142	966	995	1,027	1,058	881
35 JOHNS HOPKINS UNIVERSITY	1,083	1,109	1,131	642E	744	728	886	512E
36 U OF HOUSTON CENTRAL CAM	1,074	1,166	1,090	743	486	593	607	308
37 VANDERBILT UNIVERSITY	1,048	889	600	591	759	657	421	279
38 UNIV OF ILL CHICAGO CIR	959	262	199	215	798	210	143	135
39 MICHIGAN STATE UNIVERSITY	952	555	1,891	1,745	596	10	806	929
40 UNIVERSITY OF IOWA	934	867	768	677	584	572	506	299
TOTAL, 1ST 40 INSTS.	93,107	87,796	75,322	63,592	61,806	62,100	54,683	44,663
41 UNIVERSITY OF CHICAGO	909E	960E	858E	1,114E	572	689	648	892E
42 UNIVERSITY OF FLORIDA	899	836	938E	809	526	622	521E	575
43 UNIV OF SOUTH CAROLINA	881	3071	265E	255	447	1411	127E	122
44 SUNY AT ALBANY	850	798	459E	71E	713	708	382	63
45 PURDUE UNIVERSITY	826	975	564	600	561	618	292	332
46 NORTHWESTERN UNIVERSITY	774	796	943	596	744	743	886	549
47 UNIVERSITY OF ARIZONA	769	215	157	119	642	151	61	51
48 SUNY AT STONY BROOK	761	816	734	618	520	631	421	441
49 UNIVERSITY OF GEORGIA	755	910	842	927	187	316	242	370
50 WASHINGTON UNIVERSITY	675	730	738	604	537	654	672	548
TOTAL, 1ST 50 INSTS.	101,206	95,139	81,825	69,305	67,255	67,373	58,935	48,506

SEE FOOTNOTES AT END OF TABLE.

TABLE B-56. -- R&D EXPENDITURES IN PSYCHOLOGY AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
51 NORTHEASTERN UNIVERSITY	647	575E	536I	473	556	480E	518I	456
52 UNIVERSITY OF OREGON MAIN	643	817	940	870	564	745	908	753
53 GEORGIA INSTITUTE OF TECH	597	233	134	403	323	129	78	237
54 UNIV OF MASS BOSTON	592I	538I	223I	207	281I	282I	143I	133
55 BRANDEIS UNIVERSITY	590	433	283	253	424	417	267	243
56 UNIV OF MISSOURI COLUMBIA	589	554	478	395	200	196	135	93
57 CUNY GRAD SCH & UNIV CTR	587	482	488	342	557	440	453	322
58 BROWN UNIVERSITY	558	671	500	449	558	671	50[illegible]	414
59 OHIO STATE UNIVERSITY	545	574	733	469	405	476	593	389
60 UNIVERSITY OF LOUISVILLE	524	323	168	88	516	309	153	69
TOTAL, 1ST 60 INSTS.	107,078	100,339	[illegible],308	73,254	71,639	71,527	62,682	51,715
61 DUKE UNIVERSITY	518I	454	602	359	518I	454E	588	346
62 COLUMBIA UNIV MAIN DIV	518	607	491	365	461E	470	415	348
63 UNIV OF MD COLLEGE PARK	517	573	824	684	482	484	644	591
64 SYRACUSE UNIVERSITY	466	422	325	222	292	279	153	172
65 UNIV OF CAL SANTA BARBARA	459	571	642	480	361	520	610	447
66 CUNY BROOKLYN COLLEGE	456I	427I	380I	331	304I	305I	276I	245
67 SETON HALL UNIVERSITY	453I	434I	390I	344I	453I	434I	390I	344I
68 TENNESSEE STATE UNIV	448I	407E	39I	-	164I	167E	0	-
69 BOSTON UNIVERSITY	435	303	166	103	287	292	134	89
70 UNIV OF CENTRAL FLORIDA	415	892E	357	141	397	844	357	141
TOTAL, 1ST 70 INSTS.	121,763	105,429	90,525	76,783	75,378	75,776	66,269	54,438
71 SUNY AT BINGHAMTON	410	535	485	406	260	351	342	288
72 SUNY AT BUFFALO	400	368	221	215	318	292	176	165
73 UNIV OF NEBRASKA-LINCOLN	396	96	308	313	53	65	130	106
74 UNIVERSITY OF PITTSBURGH	395	381	427	525	276	293	368	485
75 CALIF ST COL STANISLAUS	394	319	323	0	0	0	0	0
76 ARIZONA STATE UNIVERSITY	380	369	262	457	328	301	237	155
77 EMORY UNIVERSITY	365	175	65	183	339	150	62	177
78 UNIVERSITY OF VIRGINIA	363	398	499	215	273	372	469	200
79 WESLEYAN UNIVERSITY	358I	339I	12[illegible]	126	334I	319I	115E	115
80 KENT STATE UNIVERSITY	351	525I	201I	175I	253	336I	175I	151I
TOTAL, 1ST 80 INSTS.	115,575	108,864	93,442	78,898	77,[illegible]12	78,[illegible]57	68,343	56,[illegible]80
81 NEW MEXICO STATE UNIV	340	218	178	181	332	1[illegible]6	152	178
82 SAN DIEGO STATE UNIV	336	419	251	32	250	4[illegible]5	236	17
83 IOWA ST U OF SCI & TECH	333	322	343	354	105	104	140	[illegible]8
84 GEORGIA STATE UNIVERSITY	310	319	158	230	40	64	113	109
85 US NAVAL POSTGRAD SCHOOL	307	0	152	225	307	0	152	2[illegible]5
86 RUSH UNIVERSITY	303	109	243	349	251	62	232	3[illegible]6
87 PENNSYLVANIA STATE UNIV	301	275	236	175	218	147	119	[illegible]3
88 NC AG & TECH STATE UNIV	292	4	0	0	287	4	0	0
89 CUNY HUNTER COLLEGE	279	329	0	0	186	213	0	0
90 UNIV OF CAL SANTA CRUZ	273	234	258	281	184	205	247	241
TOTAL, 1ST 90 INSTS.	118,659	111,093	95,261	80,725	79,972	79,611	69,734	57,[illegible]57
91 BOWLING GREEN STATE UNIV	272	538I	538I	900	239	417I	417I	38[illegible]
92 UNIVERSITY OF MONTANA	270	150	40	68E	151	80	37	21
93 CLARK UNIVERSITY	260	269	218	173	187	189	146	126
94 NEW SCH FOR SOC RESEARCH	254	254I	228E	215I	254	247I	222E	211I
95 LOMA LINDA UNIVERSITY	252E	242I	417E	473I	189E	184I	316E	412I
96 HAHNEMANN MED COL & HOSP	251	477	365	315	243	413	269	235
97 COLORADO STATE UNIVERSITY	246	391	339	177	235	377	321	156
98 NORTH DAKOTA STATE UNIV	244	145	165	80	221	145	162	75
99 TUFTS UNIVERSITY	239I	226I	217	101	218I	209I	201	101
100 STEVENS INSTITUTE OF TECH	237	316	352	318	0	0	0	0
TOTAL, 1ST 100 INSTS.	121,184	114,101	98,140	83,054	81,909	81,872	71,8[illegible]	59,200
TOTAL, ALL OTHER INSTS.	10,672	14,459	13,037	17,477	7,196	10,579	9,228	13,057

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-57. -- R&D EXPENDITURES IN THE SOCIAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-NOMICS	POLITICAL SCIENCE	SOCI-OLOGY	OTHER
	1982	1981	1980	1979				
TOTAL, ALL INSTITUTIONS	354,035	372,195	341,551	295,138	94,735	60,782	79,513	119,005
1 UNIVERSITY OF MICHIGAN	19,291	27,914	21,048	19,889	5,652	6,595	5,745	1,299
2 UNIV OF PENNSYLVANIA	16,011	14,426	13,868	11,576	1,720	2,732	1,887	9,666
3 UNIV OF WIS-MADISON	11,981	13,998	13,106	10,067	3,936	959	6,946	740
4 UNIV OF ILL URBANA	9,742	9,761	8,761	8,887	3,867	251	248	5,376
5 UNIV OF CAL BERKELEY	8,858	7,631	10,292	8,707	63	5,511	1,812	1,472
6 UNIVERSITY OF GEORGIA	8,517	7,650	6,656	5,913	4,083	400	582	3,452
7 CORNELL UNIVERSITY	6,912E	6,522	6,393	5,720	2,985E	196E	567	2,764E
8 UNIV OF CAL LOS ANGELES	6,477	7,015	8,604	7,699	148	4,515	229	1,485
9 UNIV OF TEXAS AT AUSTIN	6,196	5,743	5,338	4,007	1,418	2,099	1,123	1,556
10 COLUMBIA UNIV MAIN DIV	5,822	6,076	6,090	5,416	1,368	230	1,525	2,199
TOTAL, 1ST 10 INSTS.	99,807	106,736	100,156	87,881	25,746	22,988	21,064	30,009
11 UNIV OF NC AT CHAPEL HILL	5,701	5,463	3,411	2,419	202	915	3,850	724
12 RUTGERS THE ST UNIV OF NJ	5,626	6,706	6,326	4,935	757	1,335	426	3,108
13 HARVARD UNIVERSITY	5,442E	6,607E	7,365E	7,316E	1,022E	1,627E	1,701E	1,092E
14 MASS INST OF TECHNOLOGY	5,310	3,934	4,008	4,362	2,924	713	0	1,673
15 UNIVERSITY OF DENVER	5,076	5,017I	4,278	6,002	2,470	99	2,445	62
16 PRINCETON UNIVERSITY	5,028	4,851	3,318	3,112	1,016	3,833	179	0
17 UNIVERSITY OF ARIZONA	4,890	4,957	3,985	3,423	2,458	440	47	1,945
18 UNIVERSITY OF MINNESOTA	4,592	4,503	4,420	4,075	2,049	658	1,193	692
19 SYRACUSE UNIVERSITY	4,536	3,780	5,267	3,138	449	291	377	3,419
20 YALE UNIVERSITY	4,434	4,430	3,769	3,166	1,320	61	89	2,964
TOTAL, 1ST 20 INSTS.	150,442	156,984	146,303	125,829	40,413	32,970	31,371	45,688
21 ST JOHN'S UNIVERSITY (NY)	4,387	3,876	3,168	2,930	1,643	1,373	1,371	0
22 JOHNS HOPKINS UNIVERSITY	4,285	4,120	2,690	2,940E	478	62	3,128	617
23 PURDUE UNIVERSITY	3,772	4,134	4,307	3,752	3,076	18	209	469
24 UNIV OF WEST FLORIDA	3,624	3,397	2,632	824	30	508	1,293	1,793
25 UNIVERSITY OF NEW MEXICO	3,562	1,472	1,386	2,298	128	4	2	3,428
26 BRANDEIS UNIVERSITY	3,560	3,030	2,161	1,845	78	79	3,337	66
27 COLORADO STATE UNIVERSITY	3,394	3,372	2,426	1,825	62	68	419	2,845
28 STANFORD UNIVERSITY	3,368	3,609	4,038	2,240	302	176	267	2,623
29 UNIV OF MISSOURI COLUMBIA	3,153	3,089	3,124	3,336	1,957	83	726	387
30 UNIVERSITY OF COLORADO	3,055	3,421	3,270	1,722	537	69	388	2,061
TOTAL, 1ST 30 INSTS.	186,403	190,504	174,505	153,841	48,704	35,410	42,511	59,977
31 UNIV OF SOUTHERN CAL	4,045	4,190	5,139	1,006	533	1,202	1,115	195
32 UNIVERSITY OF OKLAHOMA	2,937	3,015	2,548	1,533	800	1,018	1,012	107
33 OHIO STATE UNIVERSITY	2,921	3,788	3,156	3,186	314	1,686	645	276
34 OKLAHOMA STATE UNIVERSITY	2,902I	2,628I	1,339I	1,527I	736I	0	99I	2,067I
35 MICHIGAN STATE UNIVERSITY	2,822	4,597	6,531	5,362	1,734	117	911	60
36 UNIV OF ILL CHICAGO CIR	2,721	1,757	2,317	1,368	14	177	536	1,994
37 MISSISSIPPI STATE UNIV	2,699	2,722	2,018	2,367	2,079	4	378	238
38 PENNSYLVANIA STATE UNIV	2,587	3,033	2,417	2,174	2,156	243	0	288
39 UNIV OF ALASKA FAIRBANKS	2,621	2,638	1,928	2,603	1,119	302	71	1,129
40 UNIVERSITY OF WASHINGTON	2,615	1,952	1,735	1,288	227	932	1,385	71
TOTAL, 1ST 40 INSTS.	214,572	220,824	203,633	175,955	58,416	41,091	48,663	66,402
41 LOUISIANA STATE UNIV	2,581	2,480	1,804	1,602	1,642	177	421	341
42 GEORGIA INSTITUTE OF TECH	2,569	4,360	4,006	2,205	2,324	114	114	17
43 CARNEGIE-MELLON UNIV	2,550	2,668	2,631	1,952	1,020	1,009	521	0
44 NEW YORK UNIVERSITY	2,545	3,055	2,940	2,841	1,253	458	35	799
45 IOWA ST U OF SCI & TECH	2,418	4,393	3,108	2,887	1,580	67	771	0
46 WEST VIRGINIA UNIVERSITY	2,383	2,366	2,475	2,167E	551	314	17	1,501
47 TENNESSEE STATE UNIV	2,295I	2,084E	233I	-	279I	418I	420I	1,178I
48 UNIVERSITY OF IOWA	2,250	2,129	1,043	1,104	314	283	524	1,129
49 GEORGE WASHINGTON UNIV	2,108	785	1,614	1,438	517	74	939	578
50 INDIANA UNIVERSITY	2,000	1,529	1,427	1,664	455	542	245	748
TOTAL, 1ST 50 INSTS.	238,271	246,673	224,914	193,815	68,361	44,547	52,670	72,693

SEE FOOTNOTES AT END OF TABLE.

TABLE B-57. -- R&D EXPENDITURES IN THE SOCIAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-	POLITICAL	SOCI-	OTHER
	1982	1981	1980	1979	NOMICS	SCIENCE	OLOGY	
51 UNIVERSITY OF CHICAGO	1,960E	2,374E	2,245E	2,857E	390E	400E	0	1,170E
52 FLORIDA STATE UNIVERSITY	1,914	2,716	3,183	2,149	182	492	1,093	147
53 UNIV OF ARK FAYETTEVILLE	1,864	4,921E	3,964E	4,249E	144	52	126	1,542
54 SUNY AT BINGHAMTON	1,856	1,738	1,597	811	10	963	203	680
55 AMERICAN UNIVERSITY	1,844	2,045	1,718	1,600	18	366	7	1,453
56 UTAH STATE UNIVERSITY	1,820	1,615	1,538	1,503	1,441	36	343	0
57 UNIV OF MAINE ORONO	1,803	1,749	1,402	631	860	60	305	578
58 UNIV OF NEBRASKA-LINCOLN	1,794	2,283	2,062	2,430	1,357	37	175	225
59 UNIV OF CAL SANTA BARBARA	1,789	1,499	2,342	2,013	55	726	29	979
60 UNIVERSITY OF N DAKOTA	1,785	3695	3021	2861	58	59	436	1,232
TOTAL, 1ST 60 INSTS.	256,700	267,982	245,267	212,344	72,876	47,738	55,387	80,699
61 UNIVERSITY OF CONNECTICUT	1,727	1,823	1,353	1,799	173	69	915	570
62 ARIZONA STATE UNIVERSITY	1,716	866	2,015	1,546	480	138	41	1,057
63 UNIV OF MD COLLEGE PARK	1,689	1,742	1,406	1,434	579	474	264	372
64 WELLESLEY COLLEGE	1,667	1,962	1,304	0	0	67	1,494	106
65 NORTH TEXAS STATE UNIV	1,571I	1,132	1,059E	1,013	694I	64I	216I	597I
66 US NAVAL POSTGRAD SCHOOL	1,535	835	939	767	496	269	770	0
67 U TENNESSEE KNOXVILLE	1,517	2,785I	2,278I	2,278	28	135	60	1,294
68 UNIV OF HAWAII-MANOA	1,472	1,692	1,348	1,219	622	20	202	628
69 SOUTHERN ILL U-CARBONDALE	1,437	1,281	1,262	1,324	14	6	24	1,393
70 EASTERN WASHINGTON UNIV	1,409	779	22	9	17	12	0	1,380
TOTAL, 1ST 70 INSTS.	272,440	282,879	257,253	223,733	75,979	48,992	59,373	88,096
71 SOUTH DAKOTA STATE UNIV	1,392I	1,187	532	434	426I	576I	0	0
72 SUNY AT ALBANY	1,389	1,380	470E	377E	55	875	299	160
73 DUKE UNIVERSITY	1,378I	1,323	1,381	1,221	186I	171I	644I	377I
74 UNIV OF WIS-MILWAUKEE	1,372	1,712	1,626	1,978	91	53	141	1,087
75 OREGON STATE UNIVERSITY	1,352	2,227	1,982	1,840	1,076	0	233	43
76 UNIV OF MASS AT AMHERST	1,350	1,212	928	821	779	189	287	95
77 CLEMSON UNIVERSITY	1,332	1,102	801	934	948	0	0	384
78 UNIVERSITY OF VIRGINIA	1,329	1,498	1,172	795	584	311	381	53
79 UNIVERSITY OF KANSAS	1,285I	746I	757I	1,324I	298I	43I	18I	926I
80 VA POLYTECH INST & ST U	1,267	1,350	1,203	934	1,079	123	65	0
TOTAL, 1ST 80 INSTS.	285,986	296,616	268,105	234,391	81,491	51,733	61,441	91,221
81 TEXAS A & M UNIVERSITY	1,245	1,013	1,948	1,796	927	0	34	284
82 UNIVERSITY OF IDAHO	1,180	1,112	1,243	1,347	959	47	0	174
83 NORTHERN ILLINOIS UNIV	1,172	1,595	1,022	897	8	1,015	66	83
84 NORTHEASTERN UNIVERSITY	1,125	594E	547I	488	273	0	383	469
85 BROWN UNIVERSITY	1,063	886	550	667	143	12	389	519
86 GALLAUDET COLLEGE	1,054	970	919I	1,175I	0	0	806E	248E
87 TULANE UNIVERSITY	1,031	581	171	161	177	17	232	605
88 UNIVERSITY OF FLORIDA	1,002	1,450	1,950E	1,664	473	449	32	48
89 UNIVERSITY OF WYOMING	974	725	909	483	896	0	14	64
90 ILLINOIS STATE UNIVERSITY	969	1,049	463	363	16	1	9	943
TOTAL, 1ST 90 INSTS.	296,701	306,591	277,807	243,432	85,363	53,274	63,406	94,658
91 TEMPLE UNIVERSITY	962	985E	1,765E	1,677E	0	64	898	0
92 BOSTON COLLEGE	951	543	443	77	4	0	249	698
93 UNIV OF P R-RIO PIEDRAS	897I	830I	721I	637I	0	16I	575I	306I
94 UNIV OF MASS BOSTON	894I	815I	340I	315	0	0	827I	67I
95 UNIV OF CAL SAN DIEGO	892	811	505	334	188	510	50	144
96 NORTHWESTERN UNIVERSITY	883	750	982	953	238	35	132	478
97 FORDHAM UNIVERSITY	876	480	340	659E	18	0	857	0
98 VANDERBILT UNIVERSITY	873	987	643	380	32	656	148	37
99 UNIV OF CAL IRVINE	865	816	1,471	1,064	0	0	0	865
100 CASE WESTERN RESERVE UNIV	863	807	498	383	79	0	38	746
TOTAL, 1ST 100 INSTS.	305,656	314,415	285,515	249,916	85,922	54,555	67,180	97,999
TOTAL, ALL OTHER INSTS.	48,379	57,780	56,036	45,222	8,619	6,237	12,333	21,006

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SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-58. — FEDERALLY FINANCED R&D EXPENDITURES IN THE SOCIAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-NOMICS	POLITICAL SCIENCE	SOCI-OLOGY	OTHER
	1982	1981	1980	1979				
TOTAL, ALL INSTITUTIONS	162,656	187,554	181,627	155,074	41,376	22,602	46,151	52,527
1 UNIV OF WIS-MADISON	8,812	10,355	9,561	6,788	2,526	82	5,932	272
2 UNIVERSITY OF MICHIGAN	8,596	14,399	13,733	12,348	2,790	2,520	2,609	677
3 UNIV OF PENNSYLVANIA	8,387	7,688	7,698	5,884	1,343	1,873	1,189	3,984
4 HARVARD UNIVERSITY	4,122	5,004	5,575	5,539	774	1,232	1,288	828
5 UNIV OF CAL BERKELEY	3,758	2,964	4,626	4,106	4	2,385	768	601
6 UNIVERSITY OF DENVER	3,694	4,141I	3,598	5,172	1,795	32	1,847	20
7 JOHNS HOPKINS UNIVERSITY	3,598	3,225	2,006	2,399E	64	55	3,040	439
8 UNIV OF ILL URBANA	3,335	3,619	3,658	3,161	1,334	72	162	1,817
9 RUTGERS THE ST UNIV OF NJ	3,371	4,633	3,769	3,181	153	225	426	2,567
10 MASS INST OF TECHNOLOGY	3,277	2,728	2,902	3,016	2,159	371	0	747
TOTAL, 1ST 10 INSTS.	51,000	58,756	57,126	51,594	12,940	8,847	17,261	11,952
11 CORNELL UNIVERSITY	2,834	3,345	3,380	2,546	989	21	514	1,310
12 STANFORD UNIVERSITY	2,823	3,295	3,770	1,913	262	138	227	2,196
13 BRANDEIS UNIVERSITY	2,620	2,191	1,775	1,623	77	0	2,531	12
14 UNIV OF NC AT CHAPEL HILL	2,596	2,996	1,730	960	165	266	1,452	713
15 COLUMBIA UNIV MAIN DIV	2,575	3,247	3,724	2,924	791	71	1,000	713
16 UNIVERSITY OF COLORADO	2,499	2,804	1,870	1,044	273	13	294	1,919
17 UNIVERSITY OF NEW MEXICO	2,216	282	413	353	50	0	0	2,166
18 YALE UNIVERSITY	2,203	2,553E	2,362	2,237	1,105	57	74	967
19 MICHIGAN STATE UNIVERSITY	2,126	3,167	4,153	3,152	1,534	107	450	35
20 UNIV OF TEXAS AT AUSTIN	2,041	2,076	2,142	2,124	213	435	815	578
TOTAL, 1ST 20 INSTS.	75,533	84,712	82,445	70,470	18,399	9,955	24,618	22,561
21 PRINCETON UNIVERSITY	2,040	2,711	1,771	1,172	326	1,602	112	0
22 COLORADO STATE UNIVERSITY	2,007	2,001	1,561	899	37	46	149	1,775
23 UNIVERSITY OF MINNESOTA	1,973	2,289	2,225	2,170	596	352	646	379
24 CARNEGIE-MELLON UNIV	1,971	1,896	1,974	1,464	868	741	362	0
25 PURDUE UNIVERSITY	1,741	1,921	2,087	2,210	1,238	1	71	431
26 UNIVERSITY OF ARIZONA	1,609	2,152	1,351	1,271	501	237	35	836
27 US NAVAL POSTGRAD SCHOOL	1,535	805	939	765	496	269	770	0
28 UNIVERSITY OF WASHINGTON	1,454	1,130	1,014	762	121	260	1,074E	49E
29 OHIO STATE UNIVERSITY	1,411	1,939	1,718	1,659	112	508	554	237
30 GEORGIA INSTITUTE OF TECH	1,390	2,418	2,321	1,301	1,257	62	62	9
TOTAL, 1ST 30 INSTS.	92,664	103,974	99,406	84,143	23,951	14,033	28,403	26,277
31 UNIV OF CAL LOS ANGELES	1,375	1,449	4,400	3,937	111	619	210	435
32 UNIVERSITY OF GEORGIA	1,357	1,467	1,214	1,280	783	0	138	436
33 PENNSYLVANIA STATE UNIV	1,346	1,441	1,263	1,035	1,286	37	0	23
34 UNIV OF MD COLLEGE PARK	1,280	1,022	778	955	426	419	156	279
35 DUKE UNIVERSITY	1,280I	1,122E	1,201	824	157I	171I	631I	321I
36 SYRACUSE UNIVERSITY	1,237	2,080	1,281	1,042	103	10	4E	1,120E
37 SUNY AT BINGHAMTON	1,234	1,288	1,120	530	0	785	99	350
38 AMERICAN UNIVERSITY	1,232	1,740	1,660	1,591	18	366	7	841
39 U TENNESSEE KNOXVILLE	1,220	1,404I	1,026I	1,026	23	109	48	1,040
40 UNIV OF ILL CHICAGO CIR	1,174	794	1,106	796	2	135	421	616
TOTAL, 1ST 40 INSTS.	105,399	117,781	114,455	97,159	26,860	16,684	30,117	31,738
41 UNIV OF MISSOURI COLUMBIA	1,163	966	1,196	1,394	901	64	112	86
42 NORTH TEXAS STATE UNIV	1,162I	820	454E	428	670I	49I	57I	386I
43 GEORGE WASHINGTON UNIV	1,157	528	1,393	1,315	204	57	646	250
44 UNIV OF CAL SANTA BARBARA	1,138	931	1,740	1,613	0	372	1	765
45 UNIVERSITY OF CHICAGO	1,103	1,589	1,532	1,552	253	302	0	548
46 UNIV OF SOUTHERN CAL	1,093	2,032	3,166	664	47	264	731	51
47 NEW YORK UNIVERSITY	1,032	1,592	1,778	1,475	588	88	28	328
48 GALLAUDET COLLEGE	1,027	854	0	474I	0	0	779	248
49 UNIVERSITY OF OKLAHOMA	993	871	1,223	670	229	233	431	0
50 BROWN UNIVERSITY	961	800	505	550	143	12	381	425
TOTAL, 1ST 50 INSTS.	116,228	128,764	127,442	107,494	29,895	18,225	33,283	34,825

SEE FOOTNOTES AT END OF TABLE.

TABLE B-58. -- FEDERALLY FINANCED R&D EXPENDITURES IN THE SOCIAL SCIENCES AT UNIVERSITIES AND COLLEGES: FISCAL YEARS 1979-82

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TRENDS				1982 SCIENCE FIELDS			
	SOCIAL SCIENCES TOTAL				ECO-	POLITICAL	SOCI-	OTHER
	1982	1981	1980	1979	NOMICS	SCIENCE	OLOGY	
51 BOSTON COLLEGE	935	481	344	32	4	0	247	684
52 UNIVERSITY OF IDAHO	849	727	458	480	795	C	0	54
53 IOWA ST U OF SCI & TECH	837	2,898	1,714	1,404	580	18	239	0
54 NORTHEASTERN UNIVERSITY	818	306E	417I	367	192	0	321	305
55 WELLESLEY COLLEGE	813	1,003	537	0	0	0	720	93
56 INDIANA UNIVERSITY	810	925	702	1,127	78	341	126	265
57 FORDHAM UNIVERSITY	793	449	332	533	18	0	775	0
58 WEST VIRGINIA UNIVERSITY	785	1,281	815	808	67	98	7	613
59 UTAH STATE UNIVERSITY	782	636	663	694	553	26	203	0
60 CLEMSON UNIVERSITY	770	527	370	362	606	C	0	164
TOTAL, 1ST 60 INSTS.	124,420	138,079	133,774	113,301	32,788	18,708	35,921	37,003
61 UNIV OF WIS-MILWAUKEE	761	976	1,101	1,354	57	16	43	645
62 TENNESSEE STATE UNIV	711I	645E	0	-	271	40I	162I	482I
63 ARIZONA STATE UNIVERSITY	699	734	817	767	62	26	30	581
64 UNIVERSITY OF CONNECTICUT	677	824	755	941	65	31	359	222
65 MISSISSIPPI STATE UNIV	667	1,143	881	991	434	0	161	72
66 UNIV OF WEST FLORIDA	666	1,117	846	147	2	46	431	187
67 EASTERN WASHINGTON UNIV	654	360	3	0	0	0	0	654
68 UNIVERSITY OF WYOMING	651	456	640	245	638	0	12	1
69 U TEX HLTH SCI CTR HOUSTN	619	422	225	187	0	0	619	0
70 ROCHESTER INST TECHNOLOGY	603I	603	0	0	0	0	0	603I
TOTAL, 1ST 70 INSTS.	131,128	145,361	139,042	117,933	34,073	18,867	37,738	40,450
71 TULANE UNIVERSITY	601	391	110E	146I	104	10	133	354
72 INST OF AGRI UNIV OF TENN	594	656	0	0	594	0	0	0
73 SUNY AT ALBANY	584	745	349	206	0	334	189	61
74 VA POLYTECH INST & ST U	579	630	609	424	451	105	23	0
75 UNIV OF ALASKA FAIRBANKS	577	296	660	1,193	257	147	46	127
76 VANDERBILT UNIVERSITY	561	718	364	220	0	416	120	25
77 UNIVERSITY OF N DAKOTA	560	26I	24I	22I	13	0	408	139
78 LOYOLA UNIV - CHICAGO	555	167	135I	119I	0	0	0	555
79 UNIV OF NEBRASKA-LINCOLN	544	741	983	1,159	257	0	93	194
80 TEXAS A & M UNIVERSITY	522	551	795	1,295	522E	0	0	0E
TOTAL, 1ST 80 INSTS.	136,805	150,282	143,071	122,717	36,271	19,879	38,750	41,905
81 CALIFORNIA INST OF TECH	517	419	399	372	217	114	186	0
82 UNIVERSITY OF OREGON MAIN	503	463	505	325	175	143	153	32
83 TEMPLE UNIVERSITY	500	439	633	739	0	62	438	0
84 BOSTON UNIVERSITY	496	540	615	597	57	0	43	396
85 UNIV OF SOUTHWESTERN LA	496	365	427	438	16	0	77	403
86 UNIV OF CAL IRVINE	478	480	1,076	738	0	0	0	478
87 OREGON STATE UNIVERSITY	459	578	991	878	361	0	66	32
88 KANS ST U - AG & APP SCI	449	307	278	329	215	7	22	205
89 CASE WESTERN RESERVE UNIV	448	281	123	115	57	0	29	362
90 UNIVERSITY OF KENTUCKY	445	291	279	118	210	56	0	179
TOTAL, 1ST 90 INSTS.	141,596	154,445	148,397	127,366	37,579	20,261	39,764	43,992
91 UNIV OF MASS BOSTON	440I	442I	224I	208	0	0	440I	0I
92 SUNY AT STONY BROOK	438	412	543	672	63	120	27	228
93 UNIV OF MASS AT AMHERST	425	338	582	361	99	22	240	64
94 UNIV OF CAL SAN DIEGO	415	566	437	295	186	122	35	72
95 HOWARD UNIVERSITY	411	337	693	210	58	101	252	0
96 PORTLAND STATE UNIVERSITY	405	1,074I	975I	886	0	0	349	56
97 UNIVERSITY OF UTAH	389	160	195	127	0	0	275	114
98 NORTHWESTERN UNIVERSITY	388	427	513	642	206	8	84	90
99 SOUTHERN METHODIST UNIV	379	373I	447	431	0	5	147	227
100 UNIV OF ARK FAYETTEVILLE	367	1,044E	692	285	28	0	36	303
TOTAL, 1ST 100 INSTS.	145,653	159,618	153,818	131,483	38,219	20,639	41,649	45,146
TOTAL, ALL OTHER INSTS.	17,003	27,936	27,809	23,591	3,157	1,963	4,502	7,381

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-59. -- CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD AND SOURCE OF FUNDS: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

FIELD	TOTAL			FEDERALLY FINANCED			NON-FEDERAL		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL	413,945	408,787	-1.2	265,003	266,673	0.6	148,942	142,114	-4.6
ENGINEERING	69,007	65,861	-4.6	42,394	43,220	1.9	26,613	22,641	-14.9
AERONAUTICAL AND ASTRONAUTICAL	2,870	2,284	-20.4	2,097	1,376	-34.4	773	908	17.5
CHEMICAL	7,020	6,442	-8.2	4,436	3,821	-13.9	2,584	2,621	1.4
CIVIL	5,036	5,164	2.5	2,772	2,823	1.8	2,264	2,341	3.4
ELECTRICAL	18,370	18,454	.5	13,260	14,058	6.0	5,110	4,396	-14.0
MECHANICAL	9,690	7,390	-23.7	5,695	4,208	-26.1	3,995	3,182	-20.4
OTHER, N.E.C.	26,021	26,127	.4	14,134	16,934	19.8	11,887	9,193	-22.7
PHYSICAL SCIENCES	76,114	78,190	2.7	58,465	62,608	7.1	17,649	15,582	-11.7
ASTRONOMY	4,582	5,127	11.9	3,232	3,941	21.9	1,350	1,186	-12.1
CHEMISTRY	35,392	33,470	-5.4	25,917	24,945	-3.8	9,475	8,525	-10.0
PHYSICS	32,440	33,106	2.1	26,311	28,475	8.2	6,129	4,631	-24.4
OTHER, N.E.C.	3,700	6,487	75.3	3,005	5,247	74.6	695	1,240	78.4
ENVIRONMENTAL SCIENCES	31,566	28,597	-9.4	19,181	18,431	-3.9	12,385	10,166	-17.9
ATMOSPHERIC	5,721	4,536	-20.7	3,499	3,287	-6.1	2,222	1,249	-43.8
EARTH SCIENCES	11,803	10,593	-10.3	6,947	6,326	-8.9	4,856	4,267	-12.1
OCEANOGRAPHY	8,846	8,879	.4	6,016	6,000	-.3	2,830	2,879	1.7
OTHER, N.E.C.	5,196	4,589	-11.7	2,719	2,818	3.6	2,477	1,771	-28.5
MATHEMATICAL/COMPUTER SCIENCES	12,801	15,238	19.0	6,563	9,832	49.8	6,238	5,406	-13.3
MATHEMATICS	1,902	2,568	35.0	1,127	1,617	43.5	775	951	22.7
COMPUTER SCIENCES	10,899	12,670	16.2	5,436	8,215	51.1	5,463	4,455	-18.5
LIFE SCIENCES	202,098	199,236	-1.4	126,126	120,151	-4.7	75,972	79,085	4.1
AGRICULTURAL SCIENCES	36,809	38,866	5.6	12,289	11,694	-4.8	24,520	27,172	10.8
BIOLOGICAL SCIENCES	76,860	75,671	-1.6	54,463	53,168	-2.4	22,397	22,463	.3
MEDICAL SCIENCES	81,495	78,814	-3.3	54,925	51,550	-6.1	26,570	27,262	2.6
OTHER, N.E.C.	6,934	5,927	-14.5	4,449	3,739	-16.0	2,485	2,188	-12.0
PSYCHOLOGY	6,019	5,784	-3.9	4,466	4,219	-5.5	1,553	1,565	.8
SOCIAL SCIENCES	9,175	7,182	-21.7	3,999	2,900	-27.5	5,176	4,282	-17.3
ECONOMICS	1,861	1,696	-8.9	525	666	26.9	1,336	1,030	-22.9
POLITICAL SCIENCE	1,523	765	-49.8	756	312	-58.7	767	453	-40.9
SOCIOLOGY	2,558	2,108	-17.6	1,478	948	-35.9	1,080	1,160	7.4
OTHER, N.E.C.	3,233	2,613	-19.2	1,240	974	-21.5	1,993	1,639	-17.8
OTHER SCIENCES, N.E.C.	7,165	8,699	21.4	3,809	5,312	39.5	3,356	3,387	.9

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-60. -- CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT AT DOCTORATE-GRANTING INSTITUTIONS BY SCIENCE/ENGINEERING FIELD AND SOURCE OF FUNDS: FISCAL YEARS 1981 AND 1982

(DOLLARS IN THOUSANDS)

FIELD	TOTAL			FEDERALLY FINANCED			NON-FEDERAL		
	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82	1981	1982	PERCENT CHANGE 1981-82
TOTAL	402,454	397,445	-1.2	257,746	259,533	0.7	144,708	137,912	-4.7
ENGINEERING	67,991	64,539	-5.1	41,858	42,463	1.4	26,133	22,076	-15.5
AERONAUTICAL AND ASTRONAUTICAL	2,781	2,209	-20.6	2,013	1,306	-35.1	768	903	17.6
CHEMICAL	7,01[illegible]	6,426	-8.3	4,434	3,819	-13.9	2,577	2,607	1.2
CIVIL	4,883	4,825	-1.2	2,659	2,650	-.3	2,224	2,175	-2.2
ELECTRICAL	13,167	18,094	-.4	13,129	13,770	4.9	5,038	4,324	-14.2
MECHANICAL	9,530	7,257	-23.9	5,636	4,147	-26.4	3,894	3,110	-20.1
OTHER, N.E.C.	25,619	25,728	.4	13,987	16,771	19.9	11,632	8,957	-23.0
PHYSICAL SCIENCES	73,187	75,386	3.0	56,530	60,754	7.5	16,657	14,632	-12.2
ASTRONOMY	4,482	5,093	13.6	3,154	3,914	24.1	1,328	1,179	-11.2
CHEMISTRY	33,748	31,772	-5.9	24,874	23,806	-4.3	8,874	7,966	-10.2
PHYSICS	31,450	32,195	2.4	25,557	27,831	8.9	5,893	4,364	-25.9
OTHER, N.E.C.	3,507	6,326	80.4	2,945	5,203	76.7	562	1,123	99.8
ENVIRONMENTAL SCIENCES	30,030	27,427	-8.7	18,300	17,583	-3.9	11,730	9,844	-16.1
ATMOSPHERIC	5,251	4,174	-20.5	3,122	2,934	-6.0	2,129	1,240	-41.8
EARTH SCIENCES	11,255	10,192	-9.4	6,639	6,043	-9.0	4,615	4,149	-10.1
OCEANOGRAPHY	8,592	8,700	1.3	5,959	5,947	-.2	2,633	2,753	4.6
OTHER, N.E.C.	4,932	4,361	-11.6	2,580	2,659	3.1	2,352	1,702	-27.6
MATHEMATICAL/COMPUTER SCIENCES	12,049	13,989	16.1	6,265	9,542	52.3	5,784	4,447	-23.1
MATHEMATICS	1,680	2,367	40.9	964	1,490	54.6	716	877	22.5
COMPUTER SCIENCES	10,369	11,622	12.1	5,301	8,052	51.9	5,068	3,570	-29.6
LIFE SCIENCES	198,323	196,006	-1.2	123,210	117,498	-4.6	75,113	78,508	4.5
AGRICULTURAL SCIENCES	35,203	37,548	6.7	10,872	10,537	-3.1	24,331	27,011	11.0
BIOLOGICAL SCIENCES	75,250	74,081	-1.6	53,253	51,958	-2.4	21,997	22,123	.6
MEDICAL SCIENCES	81,202	78,603	-3.2	54,793	51,357	-6.3	26,409	27,246	3.2
OTHER, N.E.C.	6,668	5,774	-13.4	4,292	3,646	-15.1	2,376	2,128	-10.4
PSYCHOLOGY	5,576	5,246	-5.9	4,174	3,831	-8.2	1,402	1,415	.9
SOCIAL SCIENCES	8,259	6,274	-24.0	3,649	2,602	-28.7	4,610	3,672	-20.3
ECONOMICS	1,670	1,585	-5.1	502	637	26.9	1,168	948	-18.8
POLITICAL SCIENCE	1,419	667	-53.0	716	277	-61.3	703	390	-44.5
SOCIOLOGY	2,259	1,716	-24.0	1,328	826	-37.8	931	890	-4.4
OTHER, N.E.C.	2,911	2,306	-20.8	1,103	862	-21.8	1,808	1,444	-20.1
OTHER SCIENCES, N.E.C.	7,039	8,578	21.9	3,760	5,260	39.9	3,279	3,318	1.2

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-61. — CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT AT UNIVERSITIES AND COLLEGES, BY SCIENCE/ENGINEERING FIELD, SOURCE OF FUNDS AND CONTROL: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

FIELD	TOTAL			FEDERALLY FINANCED			NON-FEDERAL		
	TOTAL	PUBLIC	PRIVATE	TOTAL	PUBLIC	PRIVATE	TOTAL	PUBLIC	PRIVATE
TOTAL	408,787	264,095	144,692	266,673	153,176	113,497	142,114	110,919	31,195
ENGINEERING	65,861	40,174	25,687	43,220	22,690	20,530	22,641	17,484	5,157
AERONAUTICAL AND ASTRONAUTICAL	2,284	1,112	1,172	1,376	533	843	908	579	329
CHEMICAL	6,442	4,466	1,976	3,821	2,443	1,378	2,621	2,023	598
CIVIL	5,164	3,401	1,763	2,823	1,583	1,240	2,341	1,818	523
ELECTRICAL	18,454	9,579	8,875	14,058	6,335	7,723	4,396	3,244	1,152
MECHANICAL	7,390	4,527	2,863	4,208	2,345	1,863	3,182	2,182	1,000
OTHER, N.E.C.	26,127	17,089	9,038	16,934	9,451	7,483	9,193	7,638	1,555
PHYSICAL SCIENCES	78,190	47,541	30,649	62,608	36,385	26,223	15,582	11,156	4,426
ASTRONOMY	5,127	3,391	1,736	3,941	2,520	1,421	1,186	871	315
CHEMISTRY	33,470	21,209	12,261	24,945	15,448	9,497	8,525	5,761	2,764
PHYSICS	33,106	18,480	14,626	28,475	14,763	13,712	4,631	3,717	914
OTHER, N.E.C.	6,487	4,461	2,026	5,247	3,654	1,593	1,240	807	433
ENVIRONMENTAL SCIENCES	28,597	19,590	9,007	18,431	10,936	7,495	10,166	8,654	1,512
ATMOSPHERIC	4,536	3,458	1,078	3,287	2,305	982	1,249	1,153	96
EARTH SCIENCES	10,593	7,986	2,607	6,326	4,214	2,112	4,267	3,772	495
OCEANOGRAPHY	8,879	6,109	2,770	6,000	3,607	2,393	2,879	2,502	377
OTHER, N.E.C.	4,589	2,037	2,552	2,818	810	2,008	1,771	1,227	544
MATHEMATICAL/COMPUTER SCIENCES	15,238	8,553	6,685	9,832	4,210	5,622	5,406	4,343	1,063
MATHEMATICS	2,568	1,548	1,020	1,617	755	862	951	793	158
COMPUTER SCIENCES	12,670	7,005	5,665	8,215	3,455	4,760	4,455	3,550	905
LIFE SCIENCES	199,236	133,217	66,019	120,151	70,983	49,168	79,085	62,234	16,851
AGRICULTURAL SCIENCES	38,866	37,762	1,104	11,694	11,482	212	27,172	26,280	892
BIOLOGICAL SCIENCES	75,631	46,043	29,588	53,168	29,688	23,480	22,463	16,355	6,108
MEDICAL SCIENCES	78,812	46,637	32,175	51,550	28,272	23,278	27,262	18,365	8,897
OTHER, N.E.C.	5,927	2,775	3,152	3,739	1,541	2,198	2,188	1,234	954
PSYCHOLOGY	5,784	3,503	2,281	4,219	2,502	1,717	1,565	1,001	564
SOCIAL SCIENCES	7,182	4,845	2,337	2,900	1,586	1,314	4,282	3,259	1,023
ECONOMICS	1,696	1,140	556	666	393	273	1,030	747	283
POLITICAL SCIENCE	765	556	209	312	185	127	453	371	82
SOCIOLOGY	2,108	1,393	715	948	410	538	1,160	983	177
OTHER, N.E.C.	2,613	1,756	857	974	598	376	1,639	1,158	481
OTHER SCIENCES, N.E.C.	8,699	6,672	2,027	5,312	3,884	1,428	3,387	2,788	599

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-62. — CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD AND SOURCE OF FUNDS: FISCAL YEARS 1975-82 1/

(DOLLARS IN THOUSANDS)

FIELD	1975	1976	1977	1979	1980	1981	1982
ALL SOURCES, TOTAL	1,018,773	1,043,153	960,014	696,218	794,512	952,211	973,203
ENGINEERING	118,315	81,678	87,718	87,128	89,297	103,329	144,990
PHYSICAL SCIENCES	80,642	73,755	65,216	64,685	77,154	87,813	82,104
ENVIRONMENTAL SCIENCES	35,278	49,304	28,351	25,153	36,208	35,026	42,447
MATHEMATICAL/COMPUTER SCIENCES	15,227	24,684	25,136	27,282	32,318	30,517	35,945
LIFE SCIENCES	669,093	706,961	642,493	428,293	459,057	597,597	591,136
PSYCHOLOGY	11,710	9,131	12,702	7,060	17,982	10,991	13,246
SOCIAL SCIENCES	50,904	44,303	31,798	21,358	35,073	45,125	31,248
OTHER SCIENCES, N.E.C.	37,604	53,337	66,600	35,259	47,423	41,813	32,087
FEDERAL SOURCES, TOTAL	270,083	206,890	195,519	164,460	149,563	153,798	118,996
ENGINEERING	64,019	20,200	17,219	20,927	20,438	17,601	18,246
PHYSICAL SCIENCES	18,862	19,195	21,894	32,186	22,463	25,529	20,132
ENVIRONMENTAL SCIENCES	5,960	6,428	9,307	8,220	8,033	6,867	4,479
MATHEMATICAL/COMPUTER SCIENCES	2,584	2,052	1,882	2,983	5,653	4,944	5,254
LIFE SCIENCES	169,459	153,570	137,369	90,796	86,105	89,409	66,509
PSYCHOLOGY	2,245	1,967	2,398	1,740	2,002	1,580	1,110
SOCIAL SCIENCES	2,755	1,806	2,107	2,076	1,528	6,376	1,407
OTHER SCIENCES, N.E.C.	4,199	1,672	3,341	5,532	3,341	1,492	1,859
OTHER SOURCES, TOTAL	748,690	836,263	764,495	531,758	644,949	798,413	854,207
ENGINEERING	54,296	61,478	70,499	66,201	68,859	85,728	126,744
PHYSICAL SCIENCES	61,780	54,560	43,322	32,499	54,691	62,284	61,972
ENVIRONMENTAL SCIENCES	29,318	42,876	19,044	16,933	28,175	28,159	37,968
MATHEMATICAL/COMPUTER SCIENCES	12,643	22,632	23,254	24,299	26,668	25,573	30,691
LIFE SCIENCES	499,634	553,391	505,124	337,497	372,952	508,188	524,627
PSYCHOLOGY	9,465	7,164	10,304	5,320	15,980	9,411	12,136
SOCIAL SCIENCES	48,149	42,497	29,689	19,282	33,545	38,749	29,841
OTHER SCIENCES, N.E.C.	33,405	51,665	63,259	29,727	44,082	40,321	30,228

1/ DATA WERE NOT COLLECTED IN 1978.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-63. — CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY GEOGRAPHIC DISTRIBUTION AND SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

DIVISION AND STATE	TOTAL	ENGINEERING	PHYSICAL SCIENCES	ENVIRONMENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSYCHOLOGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	973,203	144,990	82,104	42,447	35,945	591,136	13,246	31,248	32,087
NEW ENGLAND	53,287	3,360	9,334	8,498	2,403	24,630	741	4,032	269
CONNECTICUT	8,486	61	1,274	102	387	5,215	282	607	5
MAINE	1,137	70	164	40	144	86	0	0	0
MASSACHUSETTS	18,184	1,545	912	1,366	1,173	10,799	252	1,891	246
NEW HAMPSHIRE	2,186	47	0	12	0	596	0	1,531	0
RHODE ISLAND	19,672	367	6,927	6,976	559	4,540	203	0	0
VERMONT	3,622	104	57	2	40	3,394	4	3	18
MIDDLE ATLANTIC	118,681	20,557	11,455	2,905	8,493	68,294	1,113	3,556	2,308
NEW JERSEY	16,793	2,539	2,600	2,103	262	8,559	164	224	342
NEW YORK	68,177	13,102	6,406	448	1,588	42,719	343	2,233	1,333
PENNSYLVANIA	33,711	4,916	2,449	354	6,643	17,016	606	1,099	628
EAST NORTH CENTRAL	230,820	23,353	21,918	3,388	8,630	150,485	1,612	4,552	16,882
ILLINOIS	55,480	2,760	7,591	690	2,335	40,780	147	595	582
INDIANA	29,922	3,987	5,077	210	2,148	8,893	726	2,215	6,666
MICHIGAN	66,058	12,321	5,419	844	617	45,261	341	1,225	30
OHIO	33,783	2,145	2,336	735	848	13,421	181	45	72
WISCONSIN	59,577	2,140	1,495	909	2,682	42,130	217	472	9,532
WEST NORTH CENTRAL	89,916	19,458	3,103	617	2,843	62,486	287	740	382
IOWA	17,580	1,556	1,215	213	1,256	13,237	17	74	12
KANSAS	10,532	4,059	430	167	1,475	3,923	204	162	112
MINNESOTA	36,202	9,062	574	21	81	26,156	5	208	95
MISSOURI	17,280	2,306	742	169	27	13,696	59	281	0
NEBRASKA	5,952	2,384	3	0	1	3,557	2	5	0
NORTH DAKOTA	1,739	49	116	11	1	1,560	0	2	0
SOUTH DAKOTA	631	42	23	36	2	357	0	8	163
SOUTH ATLANTIC	151,288	19,443	9,509	6,601	1,214	97,232	884	10,713	5,694
DELAWARE	9,613	6,425	2,743	0	0	431	6	8	0
DISTRICT OF COLUMBIA	15,876	422	118	10	72	5,609	39	9,597	109
FLORIDA	18,123	2,153	1,029	376	498	13,384	458	183	42
GEORGIA	24,473	9,267	641	170	381	8,151	166	497	5,200
MARYLAND	35,847	537	4,200	608	171	29,932	98	134	167
NORTH CAROLINA	23,436	331	653	142	15	22,041	77	38	139
SOUTH CAROLINA	11,412	0	6	5,175	38	6,179	11	3	0
VIRGINIA	10,935	4	26	13	14	10,853	10	15	0
WEST VIRGINIA	1,573	302	93	107	25	752	19	238	37
EAST SOUTH CENTRAL	30,136	1,424	1,757	60	355	25,882	73	115	470
ALABAMA	7,414	984	172	0	91	6,161	1	0	5
KENTUCKY	9,491	14	1,087	4	95	8,249	1	41	0
MISSISSIPPI	2,335	54	188	0	158	1,454	10	8	463
TENNESSEE	10,896	372	310	56	11	10,018	61	66	2
WEST SOUTH CENTRAL	131,850	35,569	7,778	2,633	6,670	73,236	633	1,582	3,749
ARKANSAS	6,273	2,718	196	31	118	2,740	65	21	284
LOUISIANA	15,508	3,030	410	502	2,368	7,958	196	439	605
OKLAHOMA	8,880	2,834	2,287	394	57	3,111	7	182	8
TEXAS	101,189	26,987	4,885	1,706	4,127	59,427	365	940	2,752
MOUNTAIN	59,311	14,613	7,406	8,920	2,326	22,291	2,461	565	729
ARIZONA	13,439	1,643	2,905	492	70	8,164	36	113	26
COLORADO	4,714	914	1,323	286	363	1,525	16	242	5
IDAHO	684	81	58	23	0	499	0	1	22
MONTANA	120	19	4	96	1	0	5	0	0
NEVADA	10,144	31	1,135	3,187	0	3,528	2,186	0	77
NEW MEXICO	5,169	1,075	886	1,115	261	885	193	155	599
UTAH	9,244	975	1,042	3,700	1,631	1,845	0	51	0
WYOMING	15,797	9,875	53	21	0	5,845	0	3	0
PACIFIC	106,710	6,804	9,800	8,792	2,968	65,982	5,438	5,361	1,565
ALASKA	157	0	0	18	3	110	0	0	26
CALIFORNIA	65,612	5,535	6,907	4,814	1,185	36,811	5,205	4,555	600
HAWAII	3,908	0	237	2,844	0	827	0	0	0
OREGON	5,538	108	1,229	52	1,290	2,821	0	25	13
WASHINGTON	31,495	1,161	1,427	1,064	490	25,413	233	781	926
OUTLYING AREAS	1,204	391	44	33	43	618	4	32	39

SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-64. -- CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	973,203	144,990	82,104	42,447	35,945	591,136	13,246	31,248	32,087
1 UNIVERSITY OF MICHIGAN	57,023	11,293	1,739	521	421	41,982	311	756	0
2 UNIV OF WIS-MADISON	37,756	1,036	384	331	1,240	30,750	138	184	3,693
3 UNIV OF SOUTHERN CAL	36,256	3,959	5,542	526	139	20,830	5,161	99	0
4 UNIVERSITY OF MINNESOTA	35,841	9,040	449	0	0	26,058	0	201	93
5 JOHNS HOPKINS UNIVERSITY	30,353E	231I	1,135I	457I	7I	28,466I	17I	40I	0
6 U TEX MED BRNCH GALVESTON	27,459	0	0	0	0	27,459	0	0	0
7 UNIVERSITY OF CHICAGO	22,879	0	560	0	1	22,005	0	0	313
8 UNIV OF TEXAS AT AUSTIN	19,953	15,147	2,166	526	3	2,114	0	0	0
9 BROWN UNIVERSITY	19,068	367	6,927	6,978	659	4,536	203	0	0
10 SOUTHERN ILL U-CARBONDALE	19,591	64	5,464	0	29	14,034	0	0	0
TOTAL, 1ST 10 INSTS.	306,779	41,137	24,366	9,337	2,496	218,234	5,830	1,280	4,099
11 UNIVERSITY OF WASHINGTON	17,944	129	392	535	33	16,701	0	44	110
12 UNIVERSITY OF WYOMING	15,797	9,875	53	21	0	5,845	0	3	0
13 GEORGIA INSTITUTE OF TECH	14,815	9,125	50	20	250	50	100	20	5,200
14 UNIVERSITY OF FLORIDA	14,229	1,643	454	111	97	11,759	93	68	4
15 SUNY AT BUFFALO	14,127	4,678	0	0	0	8,116	0	657	676
16 PURDUE UNIVERSITY	13,725	3,374	394	88	1,994	5,271	549	1,916	89
17 GEORGETOWN UNIVERSITY	13,287	0	0	0	0	3,712	0	9,575	0
18 WASHINGTON STATE UNIV	12,994I	1,018I	843I	519I	307I	8,673I	112I	706I	816I
19 UNIVERSITY OF IOWA	12,845I	135I	573I	143I	0	11,994I	0	0	0
20 INDIANA UNIVERSITY	11,412	158	1,026	102	100	3,193	77	283	6,473
TOTAL, 1ST 20 INSTS.	447,954	71,272	28,151	10,876	5,277	293,548	6,811	14,552	17,467
21 NEW YORK UNIVERSITY	11,388	0	39	0	20	11,199	15	115	0
22 MASS INST OF TECHNOLOGY	10,901	342	0	0	0	8,878	0	1,681	0
23 COLUMBIA UNIV MAIN DIV	10,621I	215I	378I	65I	0	9,594I	0	367I	0
24 CARNEGIE-MELLON UNIV	10,611	2,849	767	166	4,364	1,136	412	398	519
25 WASHINGTON UNIVERSITY	10,528	764	742	0	27	8,995	0	0	0
26 UNIVERSITY OF ARIZONA	10,161	882	427	477	68	8,146	24	111	26
27 UNIV OF NEVADA - RENO	10,144	31	1,135	3,187	0	3,528	2,186	0	77
28 UNIVERSITY OF DELAWARE	9,613	6,429	2,743	0	0	431	6	8	0
29 CORNELL UNIVERSITY	9,556	2,871	3,560	135	403	2,285	88	392	122
30 U TEX HLTH SCI CTR S ANTO	9,406	0	0	0	0	9,406	0	0	0
TOTAL, 1ST 30 INSTS.	550,883	85,351	37,942	14,906	10,159	357,148	9,542	17,624	18,211
31 STANFORD UNIVERSITY	8,634	1,042	70	0	2	3,111	0	4,409	0
32 PENNSYLVANIA STATE UNIV	8,502	524	150	131	109	7,545	0	8	35
33 OHIO STATE UNIVERSITY	8,267	395	82	13	24	7,716	12	13	12
34 VANDERBILT UNIVERSITY	8,147I	0	0	0	0	8,147I	0	0	0
35 NC AG & TECH STATE UNIV	8,076	152	0	0	0	7,924	0	0	0
36 U OF HOUSTON CENTRAL CAM	8,022	4,856	163	91	9	136	7	24	2,707
37 UNIVERSITY OF UTAH	7,849	952	957	3,689	355	1,845	0	51	0
38 UNIVERSITY OF LOUISVILLE	7,812	0	1,008	3	0	6,801	0	0	0
39 UNIV OF ILL URBANA	7,284I	2,455I	1,240I	631I	188I	2,275I	143I	285I	70I
40 EAST CAROLINA UNIVERSITY	7,067	0	44	22	0	6,977	1	19	4
TOTAL, 1ST 40 INSTS.	630,553	95,767	41,656	19,486	10,846	409,624	9,702	22,433	21,039
41 COL OF MED & DENT OF N J	6,763	0	0	0	0	6,763	0	0	0
42 MICHIGAN STATE UNIVERSITY	6,398	18	3,175	171	14	3,020	0	0	0
43 VIRGINIA COMMONWLTH UNIV	6,351	0	0	0	0	6,351	0	0	0
44 UNIV OF SOUTH CAROLINA	6,323	0	0	5,174	0	1,149	0	0	0
45 UNIV OF CAL IRVINE	6,194	0	31	3,649	0	2,514	0	0	0
46 UNIVERSITY OF NEW ORLEANS	5,916E	0	0	0	0	5,916E	0	0	0
47 UNIV OF ARK FAYETTEVILLE	5,844	2,718	193	30	109	2,335	65	20	374
48 UNIVERSITY OF KANSAS	5,775I	373I	289I	138I	1,402I	3,251I	155I	114I	53I
49 PRINCETON UNIVERSITY	5,618	1,286	1,926	383	141	1,581	115	186	0
50 UNIVERSITY OF CONNECTICUT	5,284	574	394	102	220	3,218	281	495	0
TOTAL, 1ST 50 INSTS.	691,019	100,736	47,664	29,133	12,732	445,722	10,318	23,248	21,466

SEE FOOTNOTES AT END OF TABLE.

TABLE B-64. — CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 RICE UNIVERSITY	5,087I	2,217I	1,143I	362I	390I	572I	41I	362I	0
52 UNIV OF CAL DAVIS	5,084	0	0	0	0	5,084	0	0	0
53 UNIV OF MISSOURI COLUMBIA	5,072	723	0	0	0	4,349	0	0	0
54 MED UNIV OF SO CAROLINA	4,962	0	0	0	0	4,962	0	0	0
55 RENSSELAER POLYTECH INST	4,834	4,039	269	29	398	55	19	23	2
56 UNIVERSITY OF OKLAHOMA	4,819	469	1,921	355	0	2,013	0	61	0
57 LOUISIANA STATE UNIV	4,816	2,431	292	207	145	1,684	39	18	0
58 IOWA ST U OF SCI & TECH	4,635	1,421	615	53	1,249	1,213	3	69	12
59 SOUTHWEST TEXAS ST UNIV	4,624	0	1	0	2,983	1,640	0	0	0
60 TEMPLE UNIVERSITY	4,590	48	54	0	1,254	3,135	0	99	0
TOTAL, 1ST 60 INSTS.	739,542	112,084	51,959	30,139	19,151	470,429	10,420	23,880	21,480
61 UNIV ALABAMA BIRMINGHAM	4,551	321	33	0	35	4,162	0	0	0
62 VA POLYTECH INST & ST U	4,488	0	0	8	0	4,480	0	0	0
63 U TEXAS SYSTEM CANCER CTR	4,476	0	25	0	31	4,420	0	0	0
64 CALIFORNIA INST OF TECH	4,464	25	921	225	302	2,991	0	0	0
65 UNIV OF MD COLLEGE PARK	4,424I	306I	3,042I	42I	150I	709I	81I	94I	0
66 KANS ST U - AG & APP SCI	4,412	3,651	87	1	46	514	34	20	59
67 UNIVERSITY OF NOTRE DAME	4,393	410	3,596	6	9	247	15	7	103
68 MEDICAL COLLEGE OF WIS	4,347I	0	0	0	0	4,347I	0	0	0
69 MEDICAL COL OF GEORGIA	4,194	0	0	0	0	4,194	0	0	0
70 LAMAR UNIVERSITY	4,003	3,552	0	0	451	0	0	0	0
TOTAL, 1ST 70 INSTS.	783,294	120,349	59,663	30,421	20,175	496,493	10,550	24,001	21,642
71 UNIV OF HAWAII-MANOA	2,908	0	237	2,844	0	827	0	0	0
72 OKLAHOMA STATE UNIVERSITY	3,779	2,256I	351I	36I	49I	1,022I	0	65I	0
73 UNIVERSITY OF GEORGIA	3,595	115	108	144	108	2,606	43	471	0
74 UNIV OF VT & ST AGRIC COL	3,530	104	43	0	0	3,383	0	0	0
75 UNIV OF WIS-EAU CLAIRE	3,484	0	57	5	719	2,237	3	4	459
76 CASE WESTERN RESERVE UNIV	3,434	1,075	402	14	0	1,915	27	1	0
77 TEXAS COL OF OSTEO MED	3,410	0	0	0	0	3,410	0	0	0
78 U OF NEB MED CTR AT OMAHA	3,304	0	0	0	0	3,304	0	0	0
79 ARIZONA STATE UNIVERSITY	3,258	756	2,473	10	2	13	2	2	0
80 ROCKEFELLER UNIVERSITY	3,255	0	44	0	0	3,186	25	0	0
TOTAL, 1ST 80 INSTS.	818,251	124,655	63,378	33,474	21,053	518,396	10,650	24,544	22,101
81 RUTGERS THE ST UNIV OF NJ	3,240	990	337	1,713	31	115	4	0	50
82 BAYLOR COL OF MED, CINC	3,231	0	0	0	0	3,231	0	0	0
83 SYRACUSE UNIVERSITY	3,145	627	974	82	190	651	95	250	276
84 YALE UNIVERSITY	3,025	40	793	0	162	1,919	0	111	0
85 UNIV OF WIS-MILWAUKEE	2,981	185	126	325	15	526	29	61	1,714
86 TEXAS TECH UNIVERSITY	2,909	829	204	0	0	1,437	29	410	0
87 CLEVELAND STATE UNIV	2,806	0	1,291	449	0	954	112	0	0
88 MARQUETTE UNIVERSITY	2,806	0	161	0	153	2,490	0	2	0
89 THE OREG HLTH SCI UNIV	2,782	0	0	0	0	2,782	0	0	0
90 UNIVERSITY OF COLORADO	2,624I	288I	1,150I	109I	333I	672I	38I	33I	1I
TOTAL, 1ST 90 INSTS.	847,800	127,614	68,414	36,152	21,937	533,173	10,957	25,411	24,142
91 NEW MEXICO STATE UNIV	2,590	632	500	32	252	240	190	145	599
92 UNIV OF NEBRASKA-LINCOLN	2,489I	2,384I	0	0	0	105I	0	0	0
93 UNIV OF NC AT CHAPEL HILL	2,460	0	201	0	0	2,259	0	0	0
94 OREGON STATE UNIVERSITY	2,435	71	1,118	0	1,211	35	0	0	0
95 SUNY AT STONY BROOK	2,373	0	249	0	81	1,915	0	128	0
96 UNIV OF PENNSYLVANIA	2,287	253	47	47	37	1,294	18	587	4
97 STEPHEN F AUSTIN ST UNIV	2,233	0	8	8	0	2,217	0	0	0
98 DUKE UNIVERSITY	2,225I	44I	295I	109I	1I	1,760I	11I	5I	0
99 U TEX HLTH SCI CTR DALLAS	2,076	0	0	0	0	2,076	0	0	0
100 UNIV OF WIS-RIVER FALLS	2,071	533	62	37	199	990	2	24	224
TOTAL, 1ST 100 INSTS.	871,039	131,531	70,894	36,385	23,718	546,064	11,178	26,300	24,969
TOTAL, ALL OTHER INSTS.	102,164	13,459	11,210	6,062	12,227	45,072	2,068	4,948	7,118

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-65. -- FEDERALLY FINANCED CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	118,996	18,246	20,133	4,479	5,254	66,509	1,110	1,407	1,859
1 UNIV OF SOUTHERN CAL	20,824	3,423	228	313	5	16,847	6	2	0
2 JOHNS HOPKINS UNIVERSITY	15,103E	291	421I	309I	0I	14,211I	17I	16I	0
3 CORNELL UNIVERSITY	6,067	1,378	3,190	78	365	991	19	11	75
4 UNIVERSITY OF MICHIGAN	5,596	1,885	634	195	109	2,438	192	143	0
5 UNIV OF ILL URBANA	4,049I	1,733I	1,035I	288I	30I	863I	81I	7I	12I
6 UNIVERSITY OF KANSAS	3,414I	225I	145I	43I	4I	2,906I	51I	40I	0I
7 UNIV OF MD COLLEGE PARK	3,158I	164I	2,534I	39I	2I	331I	77I	11I	0
8 MICHIGAN STATE UNIVERSITY	3,139	0	3,139	0	0	0	0	0	0
9 RENSSELAER POLYTECH INST	2,802	2,341	156	17	231	32	11	13	1
10 GEORGIA INSTITUTE OF TECH	2,485E	1,460E	8E	0	40E	0	27E	0	950E
TOTAL, 1ST 10 INSTS.	66,637	12,638	11,490	1,282	786	38,679	481	243	1,038
11 UNIVERSITY OF COLORADO	2,300I	254I	1,038I	96I	284I	565I	29I	33I	11
12 CARNEGIE-MELLON UNIV	2,256	307	251	1	1,363	200	129	3	2
13 WASHINGTON STATE UNIV	2,225I	162I	221I	83I	21I	1,670I	24I	20I	24I
14 PRINCETON UNIVERSITY	1,990	353	925	200	69	410	29	4	0
15 DUKE UNIVERSITY	1,965I	32I	295I	62I	1I	1,559I	11I	5I	0
16 UNIVERSITY OF UTAH	1,876	468	329	254	230	581	0	14	0
17 TEXAS COL OF OSTEO MED	1,850	0	0	0	0	1,850	0	0	0
18 UNIV OF WIS-MADISON	1,640	4	10	53	4	1,405	2	10	152
19 UNIVERSITY OF GEORGIA	1,599	27	67	98	77	1,215	14	101	0
20 SOUTHERN U & A&M COLLEGE	1,567I	91I	0	33I	1,438I	5I	0	0	0
TOTAL, 1ST 20 INSTS.	85,905	14,336	14,626	2,162	4,273	48,139	719	433	1,217
21 CASE WESTERN RESERVE UNIV	1,533	463	243	13	0	786	27	1	0
22 UNIVERSITY OF CONNECTICUT	1,475	149	109	35	18	1,044	87	33	0
23 GEORGETOWN UNIVERSITY	1,261	0	0	0	0	1,123	0	138	0
24 UNIVERSITY OF NOTRE DAME	1,190	173	871	0	0	138	3	0	5
25 U TEX HLTH SCI CTR DALLAS	1,161	0	0	0	0	1,161	0	0	0
26 YESHIVA UNIVERSITY	1,125I	0	0	0	0	1,125I	0	0	0
27 RUTGERS THE ST UNIV OF NJ	1,035	0	0	1,035	0	0	0	0	0
28 UNIVERSITY OF NEW MEXICO	927	290	204	181	9	231	3	9	0
29 OREGON STATE UNIVERSITY	916	0	872	0	44	0	0	0	0
30 U TEX MED BRNCH GALVESTON	889	0	0	0	0	889	0	0	0
TOTAL, 1ST 30 INSTS.	97,417	15,411	16,925	3,426	4,344	54,636	839	614	1,222
31 SYRACUSE UNIVERSITY	880	220	123	1	53	176	26	105	176
32 UNIVERSITY OF KENTUCKY	836I	0	0	0	0	836I	0	0	0
33 NC AG & TECH STATE UNIV	821	0	0	0	0	821	0	0	0
34 U TEX HLTH SCI CTR S ANTO	781	0	0	0	0	781	0	0	0
35 TEXAS TECH UNIVERSITY	709	425	33	0	0	251	0	0	0
36 UNIV OF SOUTHWESTERN LA	685I	99I	0I	40I	3I	7I	0I	389I	147I
37 UNIVERSITY OF MINNESOTA	626	0	0	0	0	626	0	0	0
38 UNIVERSITY OF WASHINGTON	622	0	0	0	0	622	0	0	0
39 WEST VIRGINIA UNIVERSITY	583	191	47	107	0	178	3	57	0
40 UNIV OF MD BALT PROF SCH	524I	0	0	0	0	524I	0	0	0
TOTAL, 1ST 40 INSTS.	104,484	16,346	17,128	3,574	4,400	59,458	868	1,165	1,545
41 AIR FORCE INST OF TECH	450	150	0	0	300	0	0	0	0
42 MEDICAL COLLEGE OF WIS	438I	0	0	0	0	438I	0	0	0
43 ST LOUIS UNIVERSITY	434I	0	0	140I	0	294I	0	0I	0
44 WAKE FOREST UNIVERSITY	422I	0	0I	0	0	404I	18I	0	0
45 AUBURN UNIVERSITY	414I	161I	33I	0	0	220I	0	0	0
46 GEORGE WASHINGTON UNIV	395	114	17	0	48	191	3	9	13
47 CALIFORNIA INST OF TECH	395	0	260	0	0	135	0	0	0
48 BOSTON COLLEGE	366	0	227	101	0	27	5	6	0
49 INDIANA UNIVERSITY	358	0	296	0	1	17	33	0	11
50 OKLAHOMA STATE UNIVERSITY	353	24I	37I	5I	2I	283I	0	2I	0
TOTAL, 1ST 50 INSTS.	108,509	16,795	17,998	3,820	4,751	61,467	927	1,182	1,569

SEE FOOTNOTES AT END OF TABLE.

TABLE B-65. -- FEDERALLY FINANCED CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 TEMPLE UNIVERSITY	339	0	0	0	0	258	0	81	0
52 UNIV OF SOUTH CAROLINA	333	0	0	0	0	333	0	0	0
53 SOUTH DAKOTA STATE UNIV	318I	35I	23I	12I	0I	91I	0	3I	154I
54 NEW MEXICO STATE UNIV	317	25	180	8	11	56	16	0	21
55 UNIVERSITY OF IDAHO	313I	48I	0I	13I	0	252I	0	0I	0I
56 MEDICAL COL OF GEORGIA	305	0	0	0	0	305	0	0	0
57 MICHIGAN TECH UNIVERSITY	289	19I	76	9	0	13	0	0	0
58 UNIVERSITY OF OKLAHOMA	270	0	0	0	0	270	0	0	0
59 UNIVERSITY OF ARIZONA	263	4	23	114	0	121	0	1	0
60 WORCESTER POLY INSTITUTE	254	165	56	0	0	33	0	0	0
TOTAL, 1ST 60 INSTS.	111,510	17,263	18,356	3,976	4,762	63,199	943	1,267	1,744
61 VIRGINIA COMMONWLTH UNIV	238	0	0	0	0	238	0	0	0
62 U TENNESSEE KNOXVILLE	230I	30I	110I	23I	0I	49	17I	1I	0I
63 PENNSYLVANIA STATE UNIV	225	31	1	26	0	167	0	0	0
64 UNIVERSITY OF FLORIDA	214	26	0	0	0	168	6	14	0
65 EAST TENNESSEE STATE UNIV	201I	0	0	0	0	201I	0	0I	0
66 U OF NEB MED CTR AT OMAHA	198	0	0	0	0	198	0	0	0
67 UNIVERSITY OF MISSISSIPPI	184	27	136	0	0	21	0	0	0
68 ATLANTA UNIVERSITY	179I	0	95I	0	1I	83I	0	0	0
69 UNIVERSITY OF N DAKOTA	175I	19I	111I	7I	0I	37I	0	1I	0
70 LEHIGH UNIVERSITY	161	0	161	0	0	0	0	0	0
TOTAL, 1ST 70 INSTS.	113,515	17,396	18,970	4,032	4,763	64,361	966	1,283	1,744
71 UNIV OF MAINE ORONO	157I	64I	31I	19I	0I	43I	0	0	0
72 DENISON UNIVERSITY	151I	0	1I	0	150I	0I	0I	0	0
73 UNIVERSITY OF PITTSBURGH	144	130	0	0	0	14	0	0	0
74 CLARKSON COLLEGE OF TECH	141	94	43	0	2	2	0	0	0
75 UNIVERSITY OF CINCINNATI	136	23	4	0	0	108	0	0	1
76 WESLEYAN UNIVERSITY	134I	0	62I	0	5I	61I	1I	0I	5I
77 UNIVERSITY OF ROCHESTER	131	0	0	0	0	131	0	0	0
78 UNIVERSITY OF DENVER	125I	51I	66I	0	0	6I	0	2I	0
79 KANS ST U - AG & APP SCI	120	33	28	0	20	22	17	0	0
80 TUFTS UNIVERSITY	117I	4I	17I	0I	0I	92I	1I	3I	0
TOTAL, 1ST 80 INSTS.	114,871	17,795	19,222	4,051	4,940	64,840	985	1,288	1,750
81 U OF ARKANSAS MED SCI CAM	113	0	0	0	0	113	0	0	0
82 UNIVERSITY OF TOLEDO	111	13	68	0	0	30	0	0	0
83 SAN DIEGO STATE UNIV	109	5	2	2	1	32	0	0	67
84 MOUNT HOLYOKE COLLEGE	105	0	85	0	0	8	12	0	0
85 SAN JOSE STATE UNIVERSITY	104I	0I	0I	84I	20I	0I	0I	0I	0
86 US MILITARY ACADEMY	100I	32I	53I	9I	6I	0	0	0	0
87 UNIV OF PENNSYLVANIA	100	4	3	0	27	66	0	0	0
88 UNIV OF P R-RIO PIEDRAS	96I	6I	10I	4I	1I	72I	1I	1I	1I
89 MONT COL MINRL SCI & TECH	95I	8I	4I	83I	0I	0	0	0	0
90 OCCIDENTAL COLLEGE	93I	0	49I	3I	0	41I	0	0	0
TOTAL, 1ST 90 INSTS.	115,897	17,863	19,496	4,236	4,995	65,202	998	1,289	1,818
91 CATHOLIC UNIV OF AMERICA	93I	1I	44I	0	0	20I	27I	1I	0
92 OKLA PANHANDLE STATE UNIV	89I	8II	3I	0I	0	2I	3I	0I	0
93 OREGON GRADUATE CENTER	86I	0	42I	44I	0	0	0	0	0
94 ILLINOIS BENEDICTINE COL	83	0	0	0	83	0	0	0	0
95 DUQUESNE UNIVERSITY	83I	0	20I	0	0	63I	0	0	0
96 SOUTHERN METHODIST UNIV	77	10	1	33	0	0	0	33	0
97 BAYLOR COL OF MEDICINE	73	0	0	0	0	73	0	0	0
98 UNIV OF VT & ST AGRIC COL	71	2	0	0	0	69	0	0	0
99 UNIV OF ILL MED CTR CHGO	69I	0	0	0	0	69I	0	0	0
100 U OF MD BALTIMORE COUNTY	67	0	23	0	0	44	0	0	0
TOTAL, 1ST 100 INSTS.	115,588	17,957	19,629	4,313	5,078	65,542	1,028	1,323	1,818
TOTAL, ALL OTHER INSTS.	2,308	289	503	166	176	967	82	84	41

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-66. -- NON-FEDERAL CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	854,207	126,744	61,972	37,968	30,691	524,627	12,136	29,841	30,228
1 UNIVERSITY OF MICHIGAN	51,427	9,408	1,105	326	312	39,544	119	613	0
2 UNIV OF WIS-MADISON	36,116	1,032	374	278	1,236	29,345	136	174	3,541
3 UNIVERSITY OF MINNESOTA	35,215	9,040	449	0	0	25,432	0	201	93
4 U TEX MED BRNCH GALVESTON	26,570	0	0	0	0	26,570	0	0	0
5 UNIVERSITY OF CHICAGO	22,879	0	560	0	1	22,005	0	0	313
6 UNIV OF TEXAS AT AUSTIN	19,953	15,147	2,166	526	0	2,114	0	0	0
7 BROWN UNIVERSITY	19,668	367	6,927	6,976	659	4,536	203	0	0
8 SOUTHERN ILL U-CARBONDALE	19,591	64	5,464	0	29	14,034	0	0	0
9 UNIVERSITY OF WASHINGTON	17,322	129	392	535	33	16,079	0	44	110
10 UNIVERSITY OF WYOMING	15,797	9,875	57	21	0	5,845	0	3	0
TOTAL, 1ST 10 INSTS.	264,538	45,062	17,490	8,662	2,270	185,504	458	1,035	4,057
11 UNIV OF SOUTHERN CAL	15,432	536	5,314	213	134	3,983	5,155	97	0
12 JOHNS HOPKINS UNIVERSITY	15,250E	202I	714I	148I	7I	14,155I	0I	24I	0
13 SUNY AT BUFFALO	14,127	4,678	0	0	0	8,116	0	657	676
14 UNIVERSITY OF FLORIDA	14,015	1,617	454	111	97	11,591	27	54	4
15 PURDUE UNIVERSITY	13,725	3,374	394	88	1,994	5,271	599	1,916	89
16 UNIVERSITY OF IOWA	12,821I	133I	573I	143I	0	11,972I	0	0	0
17 GEORGIA INSTITUTE OF TECH	12,330E	7,665E	42E	20E	210E	50E	73E	20E	4,250E
18 GEORGETOWN UNIVERSITY	12,026	0	0	0	0	2,589	0	9,437	0
19 NEW YORK UNIVERSITY	11,388	0	39	0	20	11,199	15	115	0
20 INDIANA UNIVERSITY	11,054	158	730	102	99	3,176	44	283	6,462
TOTAL, 1ST 20 INSTS.	396,706	63,425	25,750	9,487	4,831	257,606	6,471	13,638	15,538
21 MASS INST OF TECHNOLOGY	10,901	342	0	0	0	8,878	0	1,681	0
22 WASHINGTON STATE UNIV	10,769I	856I	622I	436I	286I	7,003I	88I	686I	792I
23 COLUMBIA UNIV MAIN DIV	10,621I	215I	378I	65I	0	9,596I	0	367I	0
24 WASHINGTON UNIVERSITY	10,528	764	742	0	27	8,995	0	0	0
25 UNIV OF NEVADA - RENO	10,141	31	1,135	3,187	0	3,525	2,186	0	77
26 UNIVERSITY OF ARIZONA	9,898	878	404	363	68	8,023	24	110	26
27 UNIVERSITY OF DELAWARE	9,613	6,425	2,743	0	0	431	6	8	0
28 STANFORD UNIVERSITY	8,634	1,042	70	0	2	3,111	0	4,409	0
29 U TEX HLTH SCI CTR S ANTO	8,625	0	0	0	0	8,625	0	0	0
30 CARNEGIE-MELLON UNIV	8,355	2,542	316	165	3,001	936	283	395	517
TOTAL, 1ST 30 INSTS.	494,791	76,520	32,360	13,703	8,215	316,731	9,018	21,294	16,950
31 PENNSYLVANIA STATE UNIV	8,277	493	149	105	109	7,378	0	8	35
32 OHIO STATE UNIVERSITY	8,267	395	82	13	24	7,716	12	13	12
33 VANDERBILT UNIVERSITY	8,147I	0	0	0	0	8,147I	0	0	0
34 U OF HOUSTON CENTRAL CAM	8,032	4,896	163	91	9	135	7	24	2,707
35 UNIVERSITY OF LOUISVILLE	7,812	0	1,008	3	0	6,801	0	0	0
36 NC AG & TECH STATE UNIV	7,255	152	0	0	0	7,103	0	0	0
37 EAST CAROLINA UNIVERSITY	7,067	0	44	22	0	6,977	1	19	4
38 COL OF MED & DENT OF N J	6,702	0	0	0	0	6,702	0	0	0
39 UNIV OF CAL IRVINE	6,194	0	31	3,649	0	2,514	0	0	0
40 VIRGINIA COMMONWLTH UNIV	6,113	0	0	0	0	6,113	0	0	0
TOTAL, 1ST 40 INSTS.	568,657	82,456	33,837	17,586	8,357	376,317	9,038	21,358	19,708
41 UNIV OF SOUTH CAROLINA	5,990	0	0	5,174	0	816	0	0	0
42 UNIVERSITY OF UTAH	5,973	484	628	3,435	125	1,264	0	37	0
43 UNIVERSITY OF NEW ORLEANS	5,916E	0	0	0	0	5,916E	0	0	0
44 UNIV OF ARK FAYETTEVILLE	5,844	2,718	193	30	109	2,335	65	20	374
45 RICE UNIVERSITY	5,087I	2,217I	1,143I	362I	390I	572I	41I	362I	0
46 UNIV OF CAL DAVIS	5,084	0	0	0	0	5,084	0	0	0
47 UNIV OF MISSOURI COLUMBIA	5,072	723	0	0	0	4,349	0	0	0
48 MED UNIV OF SO CAROLINA	4,930	0	0	0	0	4,930	0	0	0
49 LOUISIANA STATE UNIV	4,816	2,431	292	207	145	1,684	39	18	0
50 SOUTHWEST TEXAS ST UNIV	4,624	0	1	0	2,983	1,640	0	0	0
TOTAL, 1ST 50 INSTS.	621,993	91,029	36,094	26,794	12,109	404,907	9,183	21,795	20,082

SEE FOOTNOTES AT END OF TABLE.

TABLE B-66. -- NON-FEDERAL CAPITAL EXPENDITURES AT UNIVERSITIES AND COLLEGES BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

- CONTINUED

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
51 IOWA ST U OF SCI & TECH	4,605	1,421	615	53	1,249	1,183	3	69	12
52 UNIV ALABAMA BIRMINGHAM	4,551	321	33	0	35	4,162	0	0	0
53 UNIVERSITY OF OKLAHOMA	4,549	469	1,921	335	0	1,743	0	61	0
54 VA POLYTECH INST & ST U	4,488	0	0	8	0	4,480	0	0	0
55 U TEXAS SYSTEM CANCER CTR	4,476	0	25	0	31	4,420	0	0	0
56 KANS ST U - AG & APP SCI	4,292	3,618	59	1	26	492	17	20	59
57 TEMPLE UNIVERSITY	4,251	48	54	0	1,254	2,877	0	18	0
58 CALIFORNIA INST OF TECH	4,069	25	661	225	302	2,856	0	0	0
59 LAMAR UNIVERSITY	4,003	3,552	0	0	451	0	0	0	0
60 MEDICAL COLLEGE OF WIS	3,909I	0	0	0	0	3,909I	0	0	0
TOTAL, 1ST 60 INSTS.	665,186	100,483	39,462	27,436	15,457	431,029	9,203	21,963	20,153
61 UNIV OF HAWAII-MANOA	3,908	0	237	2,844	0	827	0	0	0
62 MEDICAL COL OF GEORGIA	3,889	0	0	0	0	3,889	0	0	0
63 UNIVERSITY OF CONNECTICUT	3,809	425	285	67	202	2,174	194	462	0
64 PRINCETON UNIVERSITY	3,628	933	1,001	183	72	1,171	86	182	0
65 CORNELL UNIVERSITY	3,489	1,193	370	57	38	1,334	69	381	47
66 UNIV OF WIS-EAU CLAIRE	3,478	0	57	5	719	2,232	3	4	458
67 UNIV OF VT & ST AGRIC COL	3,459	102	43	0	0	3,314	0	0	0
68 OKLAHOMA STATE UNIVERSITY	3,426	2,232I	314I	31I	47I	739I	0	63I	0
69 MICHIGAN STATE UNIVERSITY	3,259	18	36	171	14	3,020	0	0	0
70 ARIZONA STATE UNIVERSITY	3,258	756	2,473	10	2	13	2	2	0
TOTAL, 1ST 70 INSTS.	700,789	106,142	44,278	30,804	16,551	449,742	9,557	23,057	20,658
71 ROCKEFELLER UNIVERSITY	3,255	0	44	0	0	3,186	25	0	0
72 UNIV OF ILL URBANA	3,235I	722I	205I	343I	158I	1,412I	59I	278I	58I
73 UNIVERSITY OF NOTRE DAME	3,203	237	2,725	6	9	109	12	7	98
74 BAYLOR COL OF MEDICINE	3,158	0	0	0	0	3,158	0	0	0
75 U OF NEB MED CTR AT OMAHA	3,106	0	0	0	0	3,106	0	0	0
76 YALE UNIVERSITY	3,027	40	793	0	162	1,919	0	111	0
77 UNIV OF WIS-MILWAUKEE	2,969	185	126	322	15	526	29	55	1,711
78 CLEVELAND STATE UNIV	2,806	0	1,291	449	0	954	112	0	0
79 MARQUETTE UNIVERSITY	2,806	0	161	0	153	2,490	0	2	0
80 THE OREG HLTH SCI UNIV	2,782	0	0	0	0	2,782	0	0	0
TOTAL, 1ST 80 INSTS.	731,134	107,326	49,623	31,924	17,048	469,384	9,794	23,510	22,525
81 UNIV OF NEBRASKA-LINCOLN	2,489I	2,384I	0	0	0	105I	0	0	0
82 UNIV OF NC AT CHAPEL HILL	2,460	0	201	0	0	2,259	0	0	0
83 SUNY AT STONY BROOK	2,373	0	249	0	81	1,915	0	128	0
84 UNIVERSITY OF KANSAS	2,361I	248I	144I	95I	1,398I	345I	104I	74I	53I
85 NEW MEXICO STATE UNIV	2,273	607	320	24	241	184	174	145	578
86 SYRACUSE UNIVERSITY	2,265	407	851	81	137	475	69	145	100
87 STEPHEN F AUSTIN ST UNIV	2,233	0	8	8	0	2,217	0	0	0
88 RUTGERS THE ST UNIV OF NJ	2,205	990	337	678	31	115	4	0	50
89 TEXAS TECH UNIVERSITY	2,200	404	171	0	0	1,186	29	410	0
90 UNIV OF PENNSYLVANIA	2,187	249	44	47	10	1,228	18	587	4
TOTAL, 1ST 90 INSTS.	754,180	112,515	51,948	32,857	18,946	479,413	10,192	24,999	23,310
91 UNIV OF WIS-RIVER FALLS	2,070	533	62	37	199	990	2	24	223
92 RENSSELAER POLYTECH INST	2,032	1,698	113	12	167	23	8	10	1
93 UNIVERSITY OF GEORGIA	1,996	88	41	46	31	1,391	29	370	0
94 N C STATE UNIV AT RALEIGH	1,982	70I	30I	0	0	1,747I	0	0	135I
95 DE PAUL UNIVERSITY	1,919	0	24	2	1,887	0	1	3	2
96 CASE WESTERN RESERVE UNIV	1,901	612	159	1	0	1,129	0	0	0
97 DARTMOUTH COLLEGE	1,835E	18E	0	0	0	286E	0	1,531E	0
98 THOMAS JEFFERSON UNIV	1,807	0	0	0	0	1,807	0	0	0
99 COLORADO STATE UNIVERSITY	1,799	518	79	163	9	824	1	205	0
100 BRANDEIS UNIVERSITY	1,784	0	120	0	489	773	130	77	195
TOTAL, 1ST 100 INSTS.	773,305	116,052	52,576	33,118	21,728	488,383	10,363	27,219	23,866
TOTAL, ALL OTHER INSTS.	80,902	10,692	9,396	4,850	8,963	36,244	1,773	2,622	6,362

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-67. -- R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY YEAR AND CHARACTER OF WORK: FISCAL YEARS 1953-82

(DOLLARS IN MILLIONS)

FISCAL YEAR	TOTAL	BASIC RESEARCH		APPLIED RESEARCH AND DEVELOPMENT	
		AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL
1953	121	33	27.3%	88	72.7%
1954	141	39	27.7	102	72.3
1955	180	49	27.2	131	72.8
1956	194	51	26.3	143	73.7
1957	240	65	27.1	175	72.9
1958	293	78	26.6	215	73.4
1959	338	92	27.2	246	72.8
1960	360	97	26.9	263	73.1
1961	410	115	28.0	295	72.0
1962	470	136	28.9	334	71.1
1963	530	159	30.0	371	70.0
1964	629	191	30.4	438	69.6
1965	629	208	33.1	421	66.9
1966	630	227	36.0	403	64.0
1967	673	250	37.1	423	62.9
1968	719	276	38.4	443	61.6
1969	725	275	37.9	450	62.1
1970	737	269	36.5	468	63.5
1971	716	260	36.3	456	63.7
1972	753	244	32.4	509	67.6
1973	817	296	36.2	521	63.8
1974	865	285	32.9	580	67.1
1975	987	309	31.3	678	68.7
1976	1,147	359	31.3	788	68.7
1977	1,384	402	29.0	982	71.0
1978 1/	1,717	-	-	-	-
1979	1,935	718	37.1	1,216	62.8
1980	2,246	786	35.0	1,460	65.0
1981	2,486	863	34.7	1,623	65.3
1982	2,479	870	35.0	1,609	65.0

1/ DATA WERE NOT COLLECTED IN 1978.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-68. -- R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY CHARACTER OF WORK AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL	986,736	1,146,712	1,383,814	1,716,911	1,934,797	2,245,773	2,485,853	2,478,721
CHARACTER OF WORK: 1/								
BASIC RESEARCH	308,981	358,811	402,168	-	718,303	785,774	863,179	869,701
APPLIED RESEARCH AND DEVELOPMENT	677,755	787,901	981,646	-	1,216,494	1,459,999	1,622,674	1,609,020
FIELD:								
ENGINEERING 2/	275,682	299,683	380,420	522,213	561,083	644,910	656,426	636,158
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	24,778	60,339	59,409
CHEMICAL	-	-	-	-	-	38,406	47,454	44,988
CIVIL	-	-	-	-	-	18,874	16,052	17,952
ELECTRICAL	-	-	-	-	-	200,981	169,059	171,470
MECHANICAL	-	-	-	-	-	135,858	185,448	181,017
OTHER, N.E.C.	-	-	-	-	-	226,013	178,074	161,322
PHYSICAL SCIENCES	523,160	622,887	736,802	854,455	1,003,562	1,127,323	1,270,539	1,315,626
ASTRONOMY	31,153	32,452	41,500	38,452	46,099	59,025	67,578	65,885
CHEMISTRY	69,658	96,268	111,564	97,529	101,142	150,540	167,148	161,548
PHYSICS	322,464	376,632	447,110	568,040	584,519	829,217	950,865	982,245
OTHER, N.E.C.	99,885	117,535	136,628	150,434	271,802	88,541	84,948	105,948
ENVIRONMENTAL SCIENCES 2/	63,175	77,476	100,981	128,217	141,100	174,724	186,526	157,962
ATMOSPHERIC	-	-	-	-	-	35,703	48,433	55,325
EARTH SCIENCES	-	-	-	-	-	59,990	42,715	37,334
OCEANOGRAPHY	-	-	-	-	-	4,306	14,276	12,201
OTHER, N.E.C.	-	-	-	-	-	74,725	81,102	53,102
MATHEMATICAL/COMPUTER SCIENCES	62,416	71,641	78,584	119,203	126,850	162,114	226,627	219,197
MATHEMATICS	17,715	22,063	15,358	8,100	6,614	31,089	38,561	42,091
COMPUTER SCIENCES	44,701	49,578	63,226	111,103	120,236	131,025	188,066	177,106
LIFE SCIENCES	42,284	50,198	57,949	58,439	73,441	76,889	85,164	84,269
AGRICULTURAL SCIENCES	0	0	354	1,206	1,551	645	570	2,528
BIOLOGICAL SCIENCES	31,661	38,253	43,569	48,154	62,659	57,006	66,406	62,180
MEDICAL SCIENCES	4,963	5,081	4,761	7,963	7,179	8,194	8,453	8,575
OTHER, N.E.C.	5,660	6,864	9,265	1,116	2,052	11,044	9,735	10,986
PSYCHOLOGY	306	92	87	103	110	135	147	155
SOCIAL SCIENCES	795	1,288	3,301	5,119	5,861	17,449	20,984	21,412
ECONOMICS	795	1,277	3,280	3,875	3,735	5,657	6,002	4,556
POLITICAL SCIENCE	0	0	0	1,244	2,126	2,422	3,439	3,428
SOCIOLOGY	0	0	0	0	0	1,500	2,259	2,487
OTHER, N.E.C.	0	11	21	0	0	3,870	9,284	10,941
OTHER SCIENCES, N.E.C.	18,918	23,447	25,490	29,162	22,790	42,229	39,440	43,942

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-69. -- FEDERALLY FINANCED R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY CHARACTER OF WORK AND SCIENCE/ENGINEERING FIELD: FISCAL YEARS 1975-82

(DOLLARS IN THOUSANDS)

CHARACTER AND FIELD	1975	1976	1977	1978	1979	1980	1981	1982
TOTAL	982,547	1,139,983	1,377,114	1,708,790	1,929,154	2,235,794	2,462,626	2,438,680
CHARACTER OF WORK: 1/								
BASIC RESEARCH	308,215	357,644	401,345	-	716,057	781,262	857,467	856,810
APPLIED RESEARCH AND DEVELOPMENT	674,332	782,339	975,769	-	1,213,097	1,454,532	1,605,159	1,581,870
FIELD:								
ENGINEERING 2/	275,252	298,382	378,852	520,442	558,324	640,744	648,336	621,527
AERONAUTICAL AND ASTRONAUTICAL	-	-	-	-	-	24,769	60,247	59,285
CHEMICAL	-	-	-	-	-	38,086	46,960	44,184
CIVIL	-	-	-	-	-	18,580	15,686	17,116
ELECTRICAL	-	-	-	-	-	199,929	167,399	167,753
MECHANICAL	-	-	-	-	-	134,606	181,996	175,136
OTHER, N.E.C.	-	-	-	-	-	224,774	176,048	158,053
PHYSICAL SCIENCES	520,940	619,202	733,575	849,460	1,002,515	1,125,356	1,261,355	1,304,343
ASTRONOMY	31,153	32,452	41,500	38,452	46,099	59,012	67,419	65,653
CHEMISTRY	69,197	95,835	111,138	97,264	101,108	150,392	164,824	158,488
PHYSICS	320,877	374,921	445,221	566,545	583,654	827,500	944,671	974,755
OTHER, N.E.C.	99,713	115,994	135,716	147,199	271,654	88,452	84,441	105,447
ENVIRONMENTAL SCIENCES 2/	62,219	76,216	99,525	127,122	140,343	172,784	183,945	148,213
ATMOSPHERIC	-	-	-	-	-	35,408	48,084	48,538
EARTH SCIENCES	-	-	-	-	-	59,265	41,421	35,785
OCEANOGRAPHY	-	-	-	-	-	4,254	14,010	12,201
OTHER, N.E.C.	-	-	-	-	-	73,857	80,430	51,689
MATHEMATICAL/COMPUTER SCIENCES	62,268	71,541	78,479	119,203	126,850	160,804	224,734	217,839
MATHEMATICS	17,626	21,971	15,262	8,100	6,614	31,030	37,865	41,064
COMPUTER SCIENCES	44,642	49,570	63,217	111,103	120,236	129,774	186,869	176,775
LIFE SCIENCES	41,863	49,842	57,641	58,242	73,084	76,450	84,235	82,503
AGRICULTURAL SCIENCES	0	0	354	1,206	1,551	645	500	2,524
BIOLOGICAL SCIENCES	31,473	38,070	43,441	47,995	62,357	56,653	65,827	60,815
MEDICAL SCIENCES	4,885	5,072	4,753	7,925	7,124	8,125	8,394	8,503
OTHER, N.E.C.	5,505	6,700	9,093	1,116	2,052	11,027	9,514	10,661
PSYCHOLOGY	304	92	87	103	110	135	147	155
SOCIAL SCIENCES	795	1,277	3,280	5,119	5,861	17,422	20,657	20,483
ECONOMICS	795	1,277	3,280	3,875	3,735	9,647	6,002	4,124
POLITICAL SCIENCE	0	0	0	1,244	2,126	2,419	3,386	3,350
SOCIOLOGY	0	0	0	0	0	1,496	2,206	2,409
OTHER, N.E.C.	0	0	0	0	0	3,860	9,063	10,600
OTHER SCIENCES, N.E.C.	18,906	23,431	25,675	29,099	22,067	42,099	39,217	43,617

1/ DATA WERE NOT COLLECTED IN 1978.
2/ DETAIL NOT SEPARATELY AVAILABLE PRIOR TO 1980.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-70. -- R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS BY SCIENCE/ENGINEERING FIELD: FISCAL YEAR 1982

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL	ENGI-NEERING	PHYSICAL SCIENCES	ENVIRON-MENTAL SCIENCES	MATH & COMPUTER SCIENCES	LIFE SCIENCES	PSY-CHOL-OGY	SOCIAL SCIENCES	OTHER SCIENCES
TOTAL, ALL INSTITUTIONS	2,478,721	636,158	1,315,626	157,962	219,197	84,269	155	21,412	43,942
1 LOS ALAMOS NATIONAL LAB (UNIV OF CALIFORNIA)	497,346	159,648	237,732	10,444	43,269	19,894	0	15,915	10,444
2 LAWRENCE LIVERMORE LAB (UNIV OF CALIFORNIA)	487,350	47,373	377,734	30,159	11,491	4,746	0	0	15,847
3 JET PROPULSION LABORATORY (CALIFORNIA INST OF TECH)	393,121	158,820	69,976	23,588	140,737	0	0	0	0
4 ARGONNE NATL LABORATORY (UNIV OF CHICAGO)	230,453	113,941	65,936	34,931	2,777	12,868	0	0	0
5 BROOKHAVEN NAT'L LAB (AUI) 1/	168,409	30,115	106,566	8,965	425	19,073	0	2,980	285
6 LINCOLN LABORATORY (MASS INST OF TECHNOLOGY)	154,841	108,698	30,039	0	15,949	0	155	0	0
7 LAWRENCE BERKELEY LAB (UNIV OF CALIFORNIA)	128,193	12,089	76,045	12,916	4,044	22,019	0	0	1,080
8 PLASMA PHYSICS LABORATORY (PRINCETON UNIV)	115,614	0	115,614	0	0	0	0	0	0
9 FERMI NAT ACCELERATOR LAB (URA) 2/	108,711	C	108,711	0	0	0	0	0	0
10 STFRD LINEAR ACCELRTR CTR (STANFORD UNIVERSITY)	70,687	0	70,687	0	0	0	0	0	0
TOTAL, 1ST 10 INSTS.	2,354,725	630,684	1,259,040	121,003	218,692	78,600	155	18,895	27,656
11 NATL CTR ATMOSPHERIC RES (UCAR) 3/	39,070	0	3,905	35,165	0	0	0	0	0
12 AMES LABORATORY (IOWA STATE UNIV OF S&T)	18,465	5,474	12,437	46	505	3	0	0	0
13 CENTER FOR NAVAL ANALYSES (UNIV OF ROCHESTER)	16,501	0	0	0	0	0	0	215	16,286
14 NAT'L RADIO ASTRONOMY OBS (AUI) 1/	13,722	0	13,722	0	0	0	0	0	0
15 KITT PEAK NAT'L OBSERVTRY (AURA) 4/	12,087	0	12,087	0	0	0	0	0	0
16 OAK RIDGE INST NUCLR STDS (ORAU) 5/	9,610	0	1,642	0	0	5,666	0	2,302	0
17 NAT'L ASTRON & IONOS CTR (CORNELL UNIVERSITY)	6,158	0	4,410	1,748	0	0	0	0	0
18 CERRO TOLOLO INTER-AM OBS (AURA) 4/	6,016	0	6,016	0	0	0	0	0	0
19 SACRAMENTO PEAK OBSERVTRY (AURA) 4/	2,367	0	2,367	0	0	0	0	0	0
TOTAL, 1ST 19 INSTS.	2,478,721	636,158	1,315,626	157,962	219,197	84,269	155	21,412	43,942

1/ ASSOCIATED UNIVERSITIES, INC.
2/ UNIVERSITIES RESEARCH ASSOCIATION
3/ UNIVERSITY CORPORATION FOR ATMOSPHERIC RESEARCH
4/ ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC.
5/ OAK RIDGE ASSOCIATED UNIVERSITIES
NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

TABLE B-71. -- R&D EXPENDITURES AT UNIVERSITY-ADMINISTERED FEDERALLY FUNDED RESEARCH AND DEVELOPMENT CENTERS: FISCAL YEARS 1979-82

(DOLLARS IN THOUSANDS)

INSTITUTIONAL RANKING	TOTAL				FEDERALLY FINANCED			
	1982	1981	1980	1979	1982	1981	1980	1979
TOTAL, ALL INSTITUTIONS	2,478,721	2,485,853	2,245,773	1,934,797	2,438,680	2,462,626	2,235,794	1,929,154
1 LOS ALAMOS NATIONAL LAB	497,346	442,107	375,392	330,000	481,837	431,563	374,304	329,330
2 LAWRENCE LIVERMORE LAB	487,350	466,765	401,115	323,630	479,407	463,337	398,794	322,081
3 JET PROPULSION LABORATORY	393,121	411,386	385,530	327,654	393,121	411,386	385,530	327,654
4 ARGONNE NATL LABORATORY	230,453	314,157	286,676	256,381	226,154	311,647	284,364	254,779
5 BROOKHAVEN NAT'L LAB	168,409	160,419	148,621	119,179	168,409	160,419	148,335	118,966
6 LINCOLN LABORATORY	154,841	147,109	135,040	109,640	154,841	147,109	135,040	109,640
7 LAWRENCE BERKELEY LAB	128,193	135,598	130,632	119,740	123,361	129,383	127,094	118,508
8 PLASMA PHYSICS LABORATORY	115,614	128,548E	126,027E	94,050	115,454	128,459E	125,940E	93,985
9 FERMI NAT ACCELERATOR LAB	108,711	95,509	83,222	74,303	108,711	95,509	83,222	74,303
10 STFRD LINEAR ACCELRTR CTR	70,687	66,516	66,544	80,725	70,687	66,516	66,544	80,725
TOTAL, 1ST 10 INSTS.	2,354,725	2,368,114	2,138,799	1,835,302	2,321,982	2,345,328	2,129,167	1,829,971
11 NATL CTR ATMOSPHERIC RES	39,070	34,196	33,893	35,921	32,332	33,855	33,673	35,756
12 AMES LABORATORY	18,465	19,711	16,704	15,073	18,465	19,711	16,704	15,073
13 CENTER FOR NAVAL ANALYSES	16,501	15,357	14,031	12,665	16,501	15,357	14,031	12,665
14 NAT'L RADIO ASTRONOMY OBS	13,722	13,750	12,032	9,780	13,722	13,750	12,032	9,780
15 KITT PEAK NAT'L OBSERVTRY	12,087	12,453	10,802	9,666	12,087	12,453	10,802	9,666
16 OAK RIDGE INST NUCLR STDS	9,610	8,507	7,928	6,128	9,050	8,407	7,801	5,981
17 NAT'L ASTRON & IONOS CTR	6,158	5,575	4,477	4,159	6,158	5,575	4,477	4,159
18 CERRO TOLOLO INTER-AM OBS	6,016	5,989	4,865	4,028	6,016	5,989	4,865	4,028
19 SACRAMENTO PEAK OBSERVTRY	2,367	2,201	2,242	2,075	2,367	2,201	2,242	2,075
TOTAL, 1ST 19 INSTS.	2,478,721	2,485,853	2,245,773	1,934,797	2,438,680	2,462,626	2,235,794	1,929,154

NOTE: NUMBERS FOLLOWED BY THE LETTER "E" ARE ESTIMATED; NUMBERS FOLLOWED BY "I" ARE IMPUTED.
DASHES INDICATE THAT DATA ARE NOT AVAILABLE; DASHES FOLLOWED BY "C" INDICATE CONFIDENTIAL DATA.
SOURCE: NATIONAL SCIENCE FOUNDATION

section c

university-administered ffrdc's: fy 1982

department of defense

Center for Naval Analyses (University of Rochester).

Lincoln Laboratory (Massachusetts Institute of Technology).

department of energy

Ames Laboratory (Iowa State University of Science and Technology).

Argonne National Laboratory (University of Chicago and Argonne Universities Association).

Brookhaven National Laboratory (Associated Universities, Inc.).

E. O. Lawrence Berkeley Laboratory (University of California).

E. O. Lawrence Livermore Laboratory (University of California).

Los Alamos Scientific Laboratory (University of California)

Fermi National Accelerator Laboratory (Universities Research Association).

Oak Ridge Institute of Nuclear Studies (Oak Ridge Associated Universities).

Plasma Physics Laboratory (Princeton University).

Stanford Linear Accelerator Center (Stanford University).

national aeronautics and space administration

Jet Propulsion Laboratory (California Institute of Technology).

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national science foundation

Cerro Tololo Inter-American Observatory (Association of Universities for Research in Astronomy, Inc.).

National Astronomy and Ionosphere Center (Cornell University).

Kitt Peak National Observatory (Association of Universities for Research in Astronomy, Inc.).

National Center for Atmospheric Research (University Corporation for Atmospheric Research).

National Radio Astronomy Observatory (Associated Universities, Inc).

Sacramento Peak Observatory (Association of Universities for Research in Astronomy, Inc.).

section d

reproduction of survey instruments

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Universities and colleges (includes aggregate data from 563 institutions) 136
University-administered federally funded research and development centers (FFRDC's) (includes data from 19 centers) 142
Crosswalk 148

ch.1 139

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

Re: Survey of Scientific and Engineering Expenditures
at Universities and Colleges, FY 1983

Dear Colleague:

This survey is one element of the system that makes up the Integrated Data Base covering scientific and engineering (S/E) resources at academic and selected nonprofit institutions. This data base is managed by the Universities and Nonprofit Institutions Studies Group (UNISG), Mrs. Penny D. Foster, Study Director. Information for the survey is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your participation in it is entirely voluntary, and failure to participate will not affect your institution adversely in any way. Information provided is for statistical use only.

This package contains:

1983 S/E Expenditure Survey Form 411, with instructions
Facsimile
NSF/NCES "Crosswalk" defining S/E fields
Postcard to notify NSF of receipt of package
Envelope for mailing completed form
Optional flow chart

THE 1983 SURVEY FORM 411 WITH INSTRUCTIONS

The 1983 form requests the same information as the 1982 form. In an effort to maintain consistency among NSF field of science/engineering codes and the NCES Classification of Instructional Programs (NCES 81-323) we have moved two of the disciplines—ceramic engineering from chemical engineering to other engineering; and marine engineering from civil engineering to other engineering. A facsimile is attached that shows data received from your institution.

NSF/NCES CROSSWALK

The crosswalk connects NSF's S/E fields with the National Center for Education Statistics Classification of Instructional Programs (NCES 81-323). It is provided to aid respondents whose institutional recordkeeping systems are organized according to NCES classifications.

POSTCARD

As soon as you receive this survey package, please let us know by filling out and mailing the postcard enclosed, stating the name and telephone number of the person completing the survey form.

RETURN ENVELOPE

A return, postage-paid envelope is provided for your use in sending in the completed survey form.

NSF CONTACT

If questions arise when completing the survey form, please call Ms. Judith Coakley or Ms. Marge Machen at (2[illegible] 634-4673. Thank you for your efforts in providing timely and meaningful statistics to NSF.

Penny D. Foster

Penny D. Foster
Study Director
Universities and Nonprofit Institutions
Studies Group
Division of Science Resources Studies

Enclosures

NSF Form 411 (11-82)

FORM APPROVED
OMB No. 3145-0015
Expiration Date: 7/31/84

NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

SURVEY OF SCIENTIFIC AND ENGINEERING EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1982

Organizations are requested to complete and return this form to:

NATIONAL SCIENCE FOUNDATION
1800 G Street, N.W., Room L-602
Washington, D.C. 20550
Attn: UNISG/R&D

This form should be returned by February 1, 1983. Your cooperation in returning the survey questionnaire promptly is very important.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. All information you provide will be used for statistical purposes only. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of $25,342 should be rounded to the nearest thousand dollars and reported as $25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Also include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical progams of your medical schools. **Exclude** data for federally funded research and development centers (FFRDC's). A separate questionnaire is included in this package if your institution administers an FFRDC. **If you have any questions please contact Judith Coakley or Margo Machen (202-634-4674).**

Please correct if name or address has changed

(Includes aggregate data from 563 universities and colleges but excludes 19 university-administered FFRDC's)

Financial data are requested for your institution's 1982 fiscal year.

Please circle the month in which your institution's fiscal year begins:

1 2 3 4 5 6 7 8 9 10 11 12

How many person hours were required to complete this form? ☐

Date Submitted _____

Scope:

This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D) in science and engineering. Definitions used are compatible with OMB Circular A-21, revised July 23, 1982. Items 1 and 2 ask for *current fund expenditures* by source of funds and by field of science/engineering. Item 3 collects data on that *portion* of *current fund expenditures* reported in items 1 and 2 that went for the purchase of scientific and engineering research equipment. Item 4 collects data on capital expenditures for facilities and equipment for research, development, and instruction by source of funds and field of science/engineering.

Definitions:

1. ***Research and Development (R&D).*** R&D for purposes of this survey is the same as "organized research" as defined in Section B.1.b. of OMB Circular A-21 (revised). It includes all R&D activities of an institution that are *separately budgeted and accounted for.* R&D includes both "sponsored research" activities (sponsored by Federal and non-Federal agencies and organizations) and "university research" (separately budgeted under an internal application of institutional funds).
   a. *Research* is a systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.
   b. *Development* is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.
2. ***Current fund expenditures.*** Expenditures of funds available for current operations. Such expenditures include all unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.
3. ***Capital expenditures*** (for facilities and equipment). A capital expenditure as defined in Section J.13 of OMB Circular A-21 (revised) means the cost of the asset including the cost to put it in place. "Equipment" as a capital expenditure means an article of nonexpendable tangible personal property having a useful life of more than two years and an acquisition cost of $500 or more per unit; lower limits may be established, consistent with institutional policy.

PLEASE TYPE OR PRINT NAME OF PERSON SUBMITTING THIS FORM	TITLE	AREA CODE	EXCH.	NO.	EXT.

NAME OF PERSON WHO PREPARED THIS SUBMISSION (if different from above)	TITLE	AREA CODE	EXCH.	NO.	EXT.

Instructions for Items 1 and 2

Separately budgeted research and development (R&D) includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. *Include* research equipment purchased under research project awards from "current fund" accounts. Also, *include* research funds subcontracted to outside organizations. *Exclude* training grants, public service grants, demonstration projects, and departmental research expenditures that are not separately budgeted. Also, *exclude* any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

a. *Federal Government*. Report grants and contracts for R&D (including direct and reimbursed indirect costs) by all agencies of the Federal Government.

b. *State and local governments*. Include funds for R&D from State, county, municipal, or other local governments and their agencies. Include here State funds which support R&D at agricultural experiment stations.

c. *Industry*. Include all grants and contracts for R&D from profitmaking organizations, whether engaged in production, distribution, research, service, or other activities. Do not include grants and contracts from nonprofit foundations financed by industry; these should be reported under *All other sources* (line 1175).

d. *Institutional funds*. Report funds, including indirect costs, which your institution spent for R&D activities from the following sources: (1) General-purpose State or local government appropriations; (2) general-purpose grants from industry, foundations, or other outside sources; (3) tuition and fees; (4) endowment income. In addition, estimate your institution's contribution to unreimbursed indirect costs incurred in association with R&D projects financed by outside organizations, and mandatory cost sharing on Federal and other grants. To estimate unreimbursed indirect costs, many institutions use a university-wide negotiated indirect cost rate multiplied by the base (e.g., direct salaries and wages, etc.) minus actual indirect cost recoveries. If your institution now separately budgets what was previously classified as departmental research, these data should be included in line 1161.

e. *All other sources*. Include grants for R&D from nonprofit foundations and voluntary health agencies as well as from all other sources not elsewhere classified. Funds from foundations which are affiliated with, or granted solely to your institution, should be included under line 1160, Institutional funds. Funds for R&D received from a health agency that is a unit of a State or local government should be reported under State and local governments (line 1125). Also include gifts from individuals that are restricted by the donor to research.

ITEM 1. CURRENT FUND EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS, FY 1982 (Include indirect costs)

Source of funds		(1) Total (Dollars in thousands)	(2) Basic research (Percent of column 1)
a. Federal Government	1110	$ 4,749,264	71.4 %
*b. State and local governments	1125	585,559	**Basic research** is directed toward an increase of knowledge; it is research where the primary aim of the **investigator** is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.
c. Industry	1150	325,594	
d. Institutional funds	1160	1,097,602	
(1) Separately budgeted	1161	566,452	
(2) Underrecovery of indirect costs and cost sharing	1162	531,150	
*e. All other sources	1175	502,618	
f. TOTAL (sum of a through e)	1100	$ 7,260,637	66.8 %

*Combined data cell (See instructions for b and e)

CONFIDENTIALITY

Information received from individual institutions in lines 1161 and 1162, or estimates for basic research expenditures, will **not** be published or released; only aggregate totals will appear in publications.

Total R&D expenditures reported in line 1100, column (1) and line 1400, column (1) should be the same.

Federally financed R&D expenditures reported in line 1110, column (1) and line 1400, column (2) should be the same.

ITEM 2. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE/ENGINEERING: FY 1982 (Include indirect costs)

Field of science/engineering		(Dollars in thousands) (1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1410	$ 1,024,514	$ 697,152
(1) Aeronautical & astronautical	1411	60,645	48,097
(2) Chemical	1412	83,265	49,616
(3) Civil	1413	108,288	59,013
(4) Electrical	1414	224,326	173,503
(5) Mechanical	1415	141,513	96,973
(6) Other	1416	406,477	269,950
b. PHYSICAL SCIENCES (TOTAL)	1420	822,844	649,670
(1) Astronomy	1421	73,296	51,728
(2) Chemistry	1422	311,452	231,627
(3) Physics	1423	363,263	305,906
(4) Other	1424	74,833	60,409
c. ENVIRONMENTAL SCIENCES (TOTAL)	1430	560,144	391,510
(1) Atmospheric	1431	85,705	68,446
(2) Earth sciences	1432	195,712	126,309
(3) Oceanography	1433	198,253	153,715
(4) Other	1434	80,474	43,040
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)	1440	244,466	179,398
(1) Mathematics	1441	96,121	72,030
(2) Computer sciences	1442	148,345	107,368
e. LIFE SCIENCES (TOTAL)	1450	3,969,808	2,493,092
(1) Agricultural	1451	838,355	254,691
(2) Biological	1452	1,289,910	921,875
(3) Medical	1453	1,721,004	1,238,805
(4) Other	1454	120,539	77,721
f. PSYCHOLOGY (TOTAL)	1460	131,856	89,105
g. SOCIAL SCIENCES (TOTAL)	1470	354,035	162,656
(1) Economics	1471	94,735	41,376
(2) Political science	1472	60,782	22,602
(3) Sociology	1473	79,513	46,151
(4) Other	1474	119,005	52,527
h. OTHER SCIENCES, not elsewhere classified (TOTAL)	1480	152,970	86,681
i. TOTAL (sum of a through h)	1400	$ 7,260,637	$ 4,749,264

*PLEASE EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

ITEM 3. CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE/ENGINEERING: FY 1982*
(See page 5 for instructions)

Field of science/engineering		(Dollars in thousands) (1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1810	$ 65,861	$ 43,220
(1) Aeronautical & astronautical	1811	2,284	1,376
(2) Chemical	1812	6,442	3,821
(3) Civil	1813	5,164	2,823
(4) Electrical	1814	18,454	14,058
(5) Mechanical	1815	7,390	4,208
(6) Other	1816	26,127	16,934
b. PHYSICAL SCIENCES (TOTAL)	1820	78,190	62,608
(1) Astronomy	1821	5,127	3,941
(2) Chemistry	1822	33,470	24,945
(3) Physics	1823	33,106	28,475
(4) Other	1824	6,487	5,247
c. ENVIRONMENTAL SCIENCES (TOTAL)	1830	28,597	18,431
(1) Atmospheric	1831	4,536	3,287
(2) Earth sciences	1832	10,593	6,326
(3) Oceanography	1833	8,879	6,000
(4) Other	1834	4,589	2,818
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)	1840	15,238	9,832
(1) Mathematics	1841	2,568	1,617
(2) Computer sciences	1842	12,670	8,215
e. LIFE SCIENCES (TOTAL)	1850	199,236	120,151
(1) Agricultural	1851	38,866	11,694
(2) Biological	1852	75,631	53,168
(3) Medical	1853	78,812	51,550
(4) Other	1854	5,927	3,739
f. PSYCHOLOGY (TOTAL)	1860	5,784	4,219
g. SOCIAL SCIENCES (TOTAL)	1870	7,182	2,900
(1) Economics	1871	1,696	666
(2) Political science	1872	765	312
(3) Sociology	1873	2,108	948
(4) Other	1874	2,613	974
h. OTHER SCIENCES, not elsewhere classified (TOTAL)	1880	8,699	5,312
i. TOTAL (sum of a through h)	1800	$ 406,787	$ 266,673

*Current fund expenditures in each field for scientific research equipment should be a subset of the "Total" and "Federal" column reported in item 2.

Item 3 Instructions

Please report that *portion* of current fund expenditures reported in items 1 and 2 that went for the purchase of research equipment. This includes all research equipment purchased under sponsored research project awards from current fund accounts.

NOTE: These research equipment expenditures are not to be included under capital expenditures reported in item 4.

For column (1) report current fund expenditures for R&D from all sources: Federal Government, State, county, municipal, or other governments and their agencies (including State funds supporting R&D at agricultural experiment stations); industry; institutional funds; and private foundations and voluntary health agencies, individuals, and associations.

For column (2) include funds from grants and contracts for R&D sponsored by agencies of the Federal Government.

Item 4 Instructions

Please report expenditures for facilities that were in process or completed during FY 1982.

Capital expenditures for facilities and equipment **include** the following: (a) Fixed equipment such as built-in equipment and furnishings; (b) movable scientific equipment such as oscilloscopes and pulse-height analyzers; (c) movable furnishings such as desks; (d) architect's fees, site work, extension of utilities, and the building costs of service functions such as integral cafeterias and bookstores of a facility; (e) facilities constructed to house separate components such as medical schools and teaching hospitals; and (f) special separate facilities used to house scientific apparatus such as accelerators, oceanographic vessels, and computers.

Expenditures for administration buildings, steam plants, residence halls, and other such facilities should be **excluded** unless used principally for research, development, or instruction in the sciences and engineering. Land costs should be **excluded. Also exclude** scientific research equipment purchased under research project awards from current fund accounts that are reported under items 1, 2, and 3.

ITEM 4. CAPITAL EXPENDITURES FOR FACILITIES AND EQUIPMENT FOR RESEARCH, DEVELOPMENT, AND INSTRUCTION, BY FIELD OF SCIENCE/ENGINEERING AND SOURCE OF FUNDS: FY 1982

Field of science/engineering		(Dollars in thousands)		
		Total (1)	Federal (2)	All other sources (3)
a. Engineering	1710	$ 144,990	$ 18,246	$ 126,744
b. Physical sciences	1720	82,104	20,132	61,972
c. Environmental sciences	1730	42,447	4,479	37,968
d. Mathematical and computer sciences	1740	35,945	5,254	30,691
e. Life sciences	1750	591,136	66,509	524,627
f. Psychology	1760	13,246	1,110	12,136
g. Social sciences	1770	31,248	1,407	29,841
h. Other sciences, n.e.c.	1780	32,087	1,859	30,228
i. Total (sum of a through h)	1700	$ 973,203	$ 118,996	$ 854,207

ILLUSTRATIVE DISCIPLINES[1]

a. Engineering	
(1) Aeronautical & astronautical	Aerodynamics, aerospace, space technology
(2) Chemical	Ceramic, petroleum, petroleum refining process
(3) Civil	Architectural, hydraulic, hydrologic, marine, sanitary and environmental, structural transportation
(4) Electrical	Communication, electronic, power
(5) Mechanical	Engineering mechanics
(6) Other	Agricultural, industrial and management, metallurgical and materials, mining, nuclear, ocean engineering systems, textile, welding
b. Physical sciences	
(1) Astronomy	Astrophysics, optical and radio, x-ray, gamma-ray, neutrino
(2) Chemistry	Inorganic, organo-metallic, organic, physical, analytical, pharmaceutical, polymer sciences (exclude biochemistry)
(3) Physics	Acoustics, atomic and molecular, condensed matter, elementary particles, nuclear structure, optics, plasma
(4) Other	Used for multidisciplinary projects within physical sciences and for disciplines not requested separately
c. Environmental sciences	
(1) Atmospheric	Aeronomy, solar, weather modification, extraterrestrial atmospheres, meteorology
(2) Earth sciences	Engineering geophysics, general geology, geodesy and gravity, geomagnetism, hydrology, inorganic geochemistry, isotopic geochemistry, organic geochemistry, lab geophysics, paleomagnetism, paleontology, physical geography and cartography, seismology
(3) Oceanography	Biological oceanography, chemical oceanography, geological oceanography, physical oceanography, marine geophysics
(4) Other	Used for multidisciplinary projects within environmental sciences
d. Mathematical and computer sciences	
(1) Mathematics	Algebra, analysis, applied mathematics, foundations and logic, geometry, numerical analysis, statistics, topology
(2) Computer sciences	Design, development, and application of computer capabilities to data storage and manipulation, information science
e. Life sciences	
(1) Agricultural	Agricultural chemistry, agronomy, animal science, conservation, dairy science, range science, wildlife
(2) Biological	Anatomy, biochemistry, biophysics, biogeography, ecology, embryology, entomology, genetics, immunology, microbiology, nutrition, parasitology, pathology, pharmacology, physical anthropology, physiology, plant science, botany, zoology, veterinary biology
(3) Medical	Anesthesiology, cardiology, endocrinology, gastroenterology, hematology, neurology, obstetrics, ophthalmology, preventive medicine and community health, psychiatry, radiology, surgery, veterinary medicine,[2] dentistry, pharmacy
(4) Other	Used for multidisciplinary projects within life sciences
f. Psychology	Animal behavior, clinical, educational, experimental, human development and personality, social
g. Social sciences	
(1) Economics	Econometrics, international, industrial, labor, agricultural, public finance and fiscal policy
(2) Political science	Regional studies, comparative government, international relations, legal systems, political theory, public administration
(3) Sociology	Comparative and historical, complex organizations, culture and social structure, demography, group interactions, social problems and welfare, theory
(4) Other	History of science, cultural anthropology, lingistics, socioeconomic geography
h. Other sciences, n.e.c.	To be used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible

[1]Also, see enclosed "Crosswalk" between NSF field of science/engineering codes and the NCES Classification of Instructional Programs (NCES 81-323).

[2]Institutions with schools of veterinary medicine should distribute R&D expenditures among the appropriate disciplines (agricultural, biological, and medical) rather than only in medical sciences.

NSF Form 411 (11-82)

FORM APPROVED
OMB No. 3145-0015
Expiration Date: 7/31/84

NATIONAL SCIENCE FOUNDATION
Washington, D.C. 20550

SURVEY OF SCIENTIFIC AND ENGINEERING EXPENDITURES AT UNIVERSITIES AND COLLEGES, FY 1982

Organizations are requested to complete and return this form to:

NATIONAL SCIENCE FOUNDATION
1800 G Street, N.W., Room L-602
Washington, D.C. 20550
Attn: UNISG/R&D

This form should be returned by February 1, 1983. Your cooperation in returning the survey questionnaire promptly is very important.

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. All information you provide will be used for statistical purposes only. Your response is entirely voluntary and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form should be reported in thousands of dollars; for example, an expenditure of $25,342 should be rounded to the nearest thousand dollars and reported as $25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Also include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical progams of your medical schools. **Exclude** data for federally funded research and development centers (FFRDC's). A separate questionnaire is included in this package if your institution administers an FFRDC. **If you have any questions please contact Judith Coakley or Marge Machen (202-634-4674).**

Please correct if name or address has changed

(Aggregate data from 19 university-administered FFRDC's)

Financial data are requested for your institution's 1982 fiscal year.

Please circle the month in which your institution's fiscal year begins:
1 2 3 4 5 6 7 8 9 10 11 12

How many person hours were required to complete this form? ☐

Date Submitted _____

Scope:

This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D) in science and engineering. Definitions used are compatible with OMB Circular A-21, revised July 23, 1982. Items 1 and 2 ask for *current fund expenditures* by source of funds and by field of science/engineering. Item 3 collects data on that *portion* of *current fund expenditures* reported in items 1 and 2 that went for the purchase of scientific and engineering research equipment. Item 4 collects data on capital expenditures for facilities and equipment for research, development, and instruction by source of funds and field of science/engineering.

Definitions:

1. ***Research and Development*** ***(R&D)***. R&D for purposes of this survey is the same as "organized research" as defined in Section B.1.b. of OMB Circular A-21 (revised). It includes all R&D activities of an institution that are *separately budgeted and accounted for*. R&D includes both "sponsored research" activities (sponsored by Federal and non-Federal agencies and organizations) and "university research" (separately budgeted under an internal application of institutional funds).
   a. ***Research*** is a systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.
   b. ***Development*** is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.
2. ***Current fund expenditures.*** Expenditures of funds available for current operations. Such expenditures include all unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.
3. ***Capital expenditures*** (for facilities and equipment). A capital expenditure as defined in Section J.13 of OMB Circular A-21 (revised) means the cost of the asset including the cost to put it in place. "Equipment" as a capital expenditure means an article of nonexpendable tangible personal property having a useful life of more than two years and an acquisition cost of $500 or more per unit; lower limits may be established, consistent with institutional policy.

PLEASE TYPE OR PRINT NAME OF PERSON SUBMITTING THIS FORM	TITLE	AREA CODE	EXCH.	NO.	EXT.

NAME OF PERSON WHO PREPARED THIS SUBMISSION (If different from above)	TITLE	AREA CODE	EXCH.	NO.	EXT.

Instructions for Items 1 and 2

Separately budgeted research and development (R&D) includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. *Include* research equipment purchased under research project awards from "current fund" accounts. Also, *include* research funds subcontracted to outside organizations. *Exclude* training grants, public service grants, demonstration projects, and departmental research expenditures that are not separately budgeted. Also, *exclude* any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

a. *Federal Government*. Report grants and contracts for R&D (including direct and reimbursed indirect costs) by all agencies of the Federal Government.

b. *State and local governments*. Include funds for R&D from State, county, municipal, or other local governments and their agencies. Include here State funds which support R&D at agricultural experiment stations.

c. *Industry*. Include all grants and contracts for R&D from profitmaking organizations, whether engaged in production, distribution, research, service, or other activities. Do not include grants and contracts from nonprofit foundations financed by industry; these should be reported under *All other sources* (line 1175).

d. *Institutional funds*. Report funds, including indirect costs, which your institution spent for R&D activities from the following sources: (1) General-purpose State or local government appropriations; (2) general-purpose grants from industry, foundations, or other outside sources; (3) tuition and fees; (4) endowment income. In addition, estimate your institution's contribution to unreimbursed indirect costs incurred in association with R&D projects financed by outside organizations, and mandatory cost sharing on Federal and other grants. To estimate unreimbursed indirect costs, many institutions use a university-wide negotiated indirect cost rate multiplied by the base (e.g., direct salaries and wages, etc.) minus actual indirect cost recoveries. If your institution now separately budgets what was previously classified as departmental research, these data should be included in line 1161.

e. *All other sources*. Include grants for R&D from nonprofit foundations and voluntary health agencies as well as from all other sources not elsewhere classified. Funds from foundations which are affiliated with, or granted solely to your institution, should be included under line 1160, Institutional funds. Funds for R&D received from a health agency that is a unit of a State or local government should be reported under State and local governments (line 1125). Also include gifts from individuals that are restricted by the donor to research.

ITEM 1. CURRENT FUND EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS, FY 1982 (Include indirect costs)

Source of funds		(1) Total (Dollars in thousands)	(2) Basic research (Percent of column 1)
a. Federal Government	1110	$ 2,438,680	35.1 %
*b. State and local governments	1125	1,323	
c. Industry	1150	158	
d. Institutional funds	1160	1,553	
(1) Separately budgeted	1161	857	
(2) Underrecovery of indirect costs and cost sharing	1162	696	
*e. All other sources	1175	37,007	
f. TOTAL (sum of a through e)	1100	$ 2,478,721	35.1 %

Basic research is directed toward an increase of knowledge; it is research where the primary aim of the **investigator** is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.

CONFIDENTIALITY

Information received from individual institutions in lines 1161 and 1162, or estimates for basic research expenditures, will **not** be published or released; only aggregate totals will appear in publications.

*Combined data coll (See instructions for b and e).

Total R&D expenditures reported in line 1100, column (1) and line 1400, column (1) should be the same.

Federally financed R&D expenditures reported in line 1100, column (1) and line 1400, column (2) should be the same.

ITEM 2. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE/ENGINEERING: FY 1982 (Include indirect costs)

Field of science/engineering		(Dollars in thousands) (1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1410	$ 636,158	$ 621,527
(1) Aeronautical & astronautical	1411	59,409	59,285
(2) Chemical	1412	44,988	44,184
(3) Civil	1413	17,952	17,116
(4) Electrical	1414	171,470	167,753
(5) Mechanical	1415	181,017	175,136
(6) Other	1416	161,322	158,053
b. PHYSICAL SCIENCES (TOTAL)	1420	1,315,626	1,304,343
(1) Astronomy	1421	65,885	65,653
(2) Chemistry	1422	161,548	158,488
(3) Physics	1423	982,245	974,755
(4) Other	1424	105,948	105,447
c. ENVIRONMENTAL SCIENCES (TOTAL)	1430	157,962	148,213
(1) Atmospheric	1431	55,325	48,538
(2) Earth sciences	1432	37,334	35,785
(3) Oceanography	1433	12,201	12,201
(4) Other	1434	53,102	51,689
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)	1440	219,197	217,839
(1) Mathematics	1441	42,091	41,064
(2) Computer sciences	1442	177,106	176,775
e. LIFE SCIENCES (TOTAL)	1450	84,269	82,503
(1) Agricultural	1451	2,528	524
(2) Biological	1452	62,180	60,815
(3) Medical	1453	8,575	8,503
(4) Other	1454	10,986	10,661
f. PSYCHOLOGY (TOTAL)	1460	155	155
g. SOCIAL SCIENCES (TOTAL)	1470	21,412	20,483
(1) Economics	1471	4,556	4,124
(2) Political science	1472	3,428	3,350
(3) Sociology	1473	2,487	2,409
(4) Other	1474	10,941	10,600
h. OTHER SCIENCES, not elsewhere classified (TOTAL)	1480	43,942	43,617
i. TOTAL (sum of a through h)	1400	$ 2,478,721	$ 2,438,680

*PLEASE EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other nonscience fields.

ITEM 3. CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE/ENGINEERING: FY 1982*
(See page 5 for instructions.)

Field of science/engineering		(Dollars in thousands) (1) Total	(2) Federal
a. ENGINEERING (TOTAL)	1810	$ 23,446	$ 23,446
(1) Aeronautical & astronautical	1811	2,721	2,721
(2) Chemical	1812	2,079	2,079
(3) Civil	1813	737	737
(4) Electrical	1814	4,276	4,276
(5) Mechanical	1815	7,764	7,764
(6) Other	1816	5,869	5,869
b. PHYSICAL SCIENCES (TOTAL)	1820	136,896	134,984
(1) Astronomy	1821	4,545	4,545
(2) Chemistry	1822	9,686	9,309
(3) Physics	1823	120,632	119,097
(4) Other	1824	2,033	2,033
c. ENVIRONMENTAL SCIENCES (TOTAL)	1830	9,794	9,794
(1) Atmospheric	1831	5,216	5,216
(2) Earth sciences	1832	1,586	1,586
(3) Oceanography	1833	510	510
(4) Other	1834	2,482	2,482
d. MATHEMATICAL AND COMPUTER SCIENCES (TOTAL)	1840	17,525	17,525
(1) Mathematics	1841	1,810	1,810
(2) Computer sciences	1842	15,715	15,715
e. LIFE SCIENCES (TOTAL)	1850	4,316	4,316
(1) Agricultural	1851	142	142
(2) Biological	1852	3,273	3,273
(3) Medical	1853	306	306
(4) Other	1854	595	595
f. PSYCHOLOGY (TOTAL)	1860	0	0
g. SOCIAL SCIENCES (TOTAL)	1870	878	878
(1) Economics	1871	21	21
(2) Political science	1872	134	134
(3) Sociology	1873	134	134
(4) Other	1874	589	589
h. OTHER SCIENCES, not elsewhere classified (TOTAL)	1880	1,092	1,092
i. TOTAL (sum of a through h)	1800	$ 193,947	$ 192,035

*Current fund expenditures in each field for scientific research equipment should be a subset of the "Total" and "Federal" column reported in item 2.

Item 3 Instructions

Please report that *portion* of current fund expenditures reported in items 1 and 2 that went for the purchase of research equipment. This includes all research equipment purchased under sponsored research project awards from current fund accounts.

NOTE: These research equipment expenditures are not to be included under capital expenditures reported in item 4.

For column (1) report current fund expenditures for R&D from all sources: Federal Government, State, county, municipal, or other governments and their agencies (including State funds supporting R&D at agricultural experiment stations); industry; institutional funds; and private foundations and voluntary health agencies, individuals, and associations.

For column (2) include funds from grants and contracts for R&D sponsored by agencies of the Federal Government.

Item 4 Instructions

Please report expenditures for facilities that were in process or completed during FY 1982.

Capital expenditures for facilities and equipment **include** the following: (a) Fixed equipment such as built-in equipment and furnishings; (b) movable scientific equipment such as oscilloscopes and pulse-height analyzers; (c) movable furnishings such as desks; (d) architect's fees, site work, extension of utilities, and the building costs of service functions such as integral cafeterias and bookstores of a facility; (e) facilities constructed to house separate components such as medical schools and teaching hospitals; and (f) special separate facilities used to house scientific apparatus such as accelerators, oceanographic vessels, and computers.

Expenditures for administration buildings, steam plants, residence halls, and other such facilities should be **excluded** unless used principally for research, development, or instruction in the sciences and engineering. Land costs should be **excluded. Also exclude** scientific research equipment purchased under research project awards from current fund accounts that are reported under items 1, 2, and 3.

ITEM 4. CAPITAL EXPENDITURES FOR FACILITIES AND EQUIPMENT FOR RESEARCH, DEVELOPMENT, AND INSTRUCTION, BY FIELD OF SCIENCE/ENGINEERING AND SOURCE OF FUNDS: FY 1982

Field of science/engineering		(Dollars in thousands)		
		Total (1)	Federal (2)	All other sources (3)
a. Engineering	1710	$ 64,397	$ 64,397	$ 0
b. Physical sciences	1720	209,224	209,224	0
c. Environmental sciences	1730	6,560	6,560	0
d. Mathematical and computer sciences	1740	11,815	11,815	0
e. Life sciences	1750	4,342	4,342	0
f. Psychology	1760	0	0	0
g. Social sciences	1770	1,565	1,565	0
h. Other sciences, n.e.c.	1780	2,709	2,709	0
i. Total (sum of a through h)	1700	$ 300,612	$ 300,612	$ 0

ILLUSTRATIVE DISCIPLINES[1]

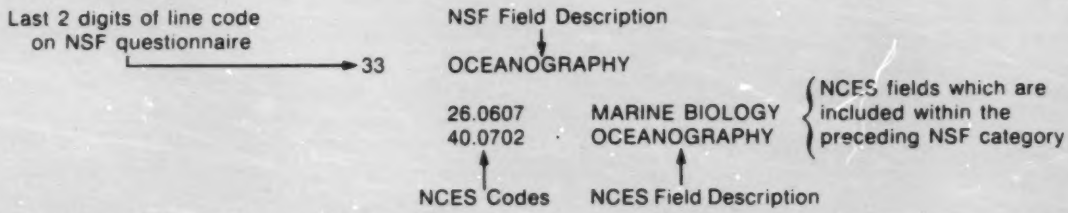
a. Engineering	
(1) Aeronautical & astronautical	Aerodynamics, aerospace, space technology
(2) Chemical	Ceramic, petroleum, petroleum refining process
(3) Civil	Architectural, hydraulic, hydrologic, marine, sanitary and environmental, structural transportation
(4) Electrical	Communication, electronic, power
(5) Mechanical	Engineering mechanics
(6) Other	Agricultural, industrial and management, metallurgical and materials, mining, nuclear, ocean engineering systems, textile, welding
b. Physical sciences	
(1) Astronomy	Astrophysics, optical and radio, x-ray, gamma-ray, neutrino
(2) Chemistry	Inorganic, organo-metallic, organic, physical, analytical, pharmaceutical, polymer sciences (exclude biochemistry)
(3) Physics	Acoustics, atomic and molecular, condensed matter, elementary particles, nuclear structure, optics, plasma
(4) Other	Used for multidisciplinary projects within physical sciences and for disciplines not requested separately
c. Environmental sciences	
(1) Atmospheric	Aeronomy, solar, weather modification, extraterrestrial atmospheres, meteorology
(2) Earth sciences	Engineering geophysics, general geology, geodesy and gravity, geomagnetism, hydrology, inorganic geochemistry, isotopic geochemistry, organic geochemistry, lab geophysics, paleomagnetism, paleontology, physical geography and cartography, seismology
(3) Oceanography	Biological oceanography, chemical oceanography, geological oceanography, physical oceanography, marine geophysics
(4) Other	Used for multidisciplinary projects within environmental sciences
d. Mathematical and computer sciences	
(1) Mathematics	Algebra, analysis, applied mathematics, foundations and logic, geometry, numerical analysis, statistics, topology
(2) Computer sciences	Design, development, and application of computer capabilities to data storage and manipulation, information science
e. Life sciences	
(1) Agricultural	Agricultural chemistry, agronomy, animal science, conservation, dairy science, range science, wildlife
(2) Biological	Anatomy, biochemistry, biophysics, biogeography, ecology, embryology, entomology, genetics, immunology, microbiology, nutrition, parasitology, pathology, pharmacology, physical anthropology, physiology, plant science, botany, zoology, veterinary biology
(3) Medical	Anesthesiology, cardiology, endocrinology, gastroenterology, hematology, neurology, obstetrics, ophthalmology, preventive medicine and community health, psychiatry, radiology, surgery, veterinary medicine,[2] dentistry, pharmacy
(4) Other	Used for multidisciplinary projects within life sciences
f. Psychology	Animal behavior, clinical, educational, experimental, human development and personality, social
g. Social sciences	
(1) Economics	Econometrics, international, industrial, labor, agricultural, public finance and fiscal policy
(2) Political science	Regional studies, comparative government, international relations, legal systems, political theory, public administration
(3) Sociology	Comparative and historical, complex organizations, culture and social structure, demography, group interactions, social problems and welfare, theory
(4) Other	History of science, cultural anthropology, lingistics, socioeconomic geography
h. Other sciences, n.e.c.	To be used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible

[1]Also, see enclosed "Crosswalk" between NSF field of science/engineering codes and the NCES Classification of Instructional Programs (NCES 81-323).

[2]Institutions with schools of veterinary medicine should distribute R&D expenditures among the appropriate disciplines (agricultural, biological, and medical) rather than only in medical sciences.

CROSSWALK BETWEEN NSF FIELD OF SCIENCE/ENGINEERING CODES AND THE NCES CLASSIFICATION OF INSTRUCTIONAL PROGRAMS

SAMPLE LISTING:



10 ENGINEERING, TOTAL

11 AEROSPACE
- 14.02 AEROSPACE, AERONAUTICAL, AND ASTRONAUTICAL ENGINEERING

12 CHEMICAL
- 03.0406 PULP AND PAPER PRODUCTION
- 03.0509 WOOD SCIENCE
- 14.07 CHEMICAL ENGINEERING
- 14.25 PETROLEUM ENGINEERING

13 CIVIL
- 04.02 ARCHITECTURE
- 14.04 ARCHITECTURAL ENGINEERING
- 14.08 CIVIL ENGINEERING
- 14.14 ENVIRONMENTAL HEALTH ENGINEERING

14 ELECTRICAL
- 14.09 COMPUTER ENGINEERING
- 14.10 ELECTRICAL, ELECTRONICS, AND COMMUNICATIONS ENGINEERING

15 MECHANICAL
- 14.11 ENGINEERING MECHANICS
- 14.19 MECHANICAL ENGINEERING

16 OTHER ENGINEERING
- 14.01 ENGINEERING, GENERAL
- 14.03 AGRICULTURAL ENGINEERING
- 14.05 BIOENGINEERING AND BIOMEDICAL ENGINEERING
- 14.06 CERAMIC ENGINEERING
- 14.12 ENGINEERING PHYSICS
- 14.13 ENGINEERING SCIENCE
- 14.15 GEOLOGICAL ENGINEERING
- 14.16 GEOPHYSICAL ENGINEERING
- 14.17 INDUSTRIAL ENGINEERING
- 14.18 MATERIALS ENGINEERING
- 14.20 METALLURGICAL ENGINEERING
- 14.21 MINING AND MINERAL ENGINEERING
- 14.22 NAVAL ARCHITECTURE & MARINE ENGINEERING
- 14.23 NUCLEAR ENGINEERING
- 14.24 OCEAN ENGINEERING
- 14.27 SYSTEMS ENGINEERING
- 14.28 TEXTILE ENGINEERING
- 14.99 ENGINEERING, OTHER
- 19.0901 TEXTILE AND CLOTHING
- 30.03 ENGINEERING & OTHER DISCIPLINES
- 30.06 SYSTEMS SCIENCE
- 40.0701 METALLURGY

20 PHYSICAL SCIENCES, TOTAL

21 ASTRONOMY
- 40.02 ASTRONOMY
- 40.03 ASTROPHYSICS
- 40.09 PLANETARY SCIENCE

22 CHEMISTRY
- 40.05 CHEMISTRY

23 PHYSICS
- 40.08 PHYSICS

24 OTHER PHYSICAL SCIENCES
- 40.0799 MISCELLANEOUS PHYSICAL SCIENCE, OTHER
- 40.01 PHYSICAL SCIENCES, GENERAL
- 40.99 PHYSICAL SCIENCES, OTHER

30 ENVIRONMENTAL SCIENCES, TOTAL

31 ATMOSPHERIC
- 40.04 ATMOSPHERIC SCIENCE & METEOROLOGY

32 EARTH
- 40.06 GEOLOGICAL SCIENCES

33 OCEANOGRAPHY
- 26.0607 MARINE BIOLOGY
- 40.0702 OCEANOGRAPHY

34 OTHER ENVIRONMENTAL SCIENCES

40 MATHEMATICAL SCIENCES, TOTAL

41 MATHEMATICS
- 06.1302 OPERATIONS RESEARCH (QUANTITATIVE METHODS)
- 27 MATHEMATICS

42 COMPUTER SCIENCE
- 06.12 MANAGEMENT INFORMATION SYSTEMS
- 11 COMPUTER & INFORMATION SCIENCE, GENERAL

49 MATHEMATICAL SCIENCE, OTHER

50 LIFE SCIENCES, TOTAL

51 AGRICULTURAL
- 01.03 AGRICULTURAL PRODUCTION
- 01.0303 AQUACULTURE
- 01.07 INTERNATIONAL AGRICULTURE
- 02 AGRICULTURAL SCIENCES
- 03 RENEWABLE NATURAL RESOURCES
- 04.06 LANDSCAPE ARCHITECTURE

52 BIOLOGICAL
- 18.0201 CLINICAL ANATOMY
- 18.0202 CLINICAL BIOCHEMISTRY
- 18.0203 CLINICAL MICROBIOLOGY
- 18.0204 CLINICAL PATHOLOGY
- 18.0205 PHYSIOLOGY
- 18.06 EPIDEMIOLOGY
- 18.1002 ALLERGIES AND ENDOMOLOGY
- 18.1009 IMMUNOLOGY
- 18.1018 PATHOLOGY
- 18.23 TOXICOLOGY (CLINICAL)
- 19.05 FOOD SCIENCE & HUMAN NUTRITION
- 20.0108 FOOD AND NUTRITION
- 26.0302 BACTERIOLOGY
- 26.0601 ANATOMY
- 26.0602 BIOMETRICS AND BIOSTATISTICS
- 26.0603 ECOLOGY
- 26.0604 EMBRYOLOGY
- 26.0606 HISTOLOGY
- 26.0609 NUTRITIONAL SCIENCES
- 26.0610 PARASITOLOGY
- 26.0612 TOXICOLOGY
- 26.0699 MISCELLANEOUS SPECIALIZED AREAS/ LIFE SCIENCE/OTHER
- 26.0701 ZOOLOGY
- 26.0702 ENTOMOLOGY
- 26.0703 GENETICS, HUMAN AND ANIMAL
- 26.0704 PATHOLOGY, HUMAN AND ANIMAL
- 26.0705 PHARMACOLOGY, HUMAN AND ANIMAL
- 26.0706 PHYSIOLOGY, HUMAN AND ANIMAL
- 26.0799 ZOOLOGY, OTHER
- 26.01 BIOLOGY, GENERAL
- 26.02 BIOCHEMISTRY AND BIOPHYSICS
- 26.03 BOTANY
- 26.04 CELL AND MOLECULAR BIOLOGY
- 26.05 MICROBIOLOGY
- 42.14 PSYCHOPHARMACOLOGY
- 26.99 LIFE SCIENCES, OTHER

53 MEDICAL
- 18.0299 BASIC CLINICAL HEALTH SCIENCES, OTHER
- 13.04 DENTISTRY
- 13.08 HEMATOLOGY
- 18.1001 MEDICINE, GENERAL
- 18.1003 ANESTHESIOLOGY
- 18.1004 COLON AND RECTAL SURGERY
- 18.1005 DERMATOLOGY
- 18.1007 FAMILY PRACTICE
- 18.1008 GERIATRICS
- 18.1010 INTERNAL MEDICINE
- 18.1011 NEUROLOGICAL SURGERY
- 18.1012 NUCLEAR MEDICINE
- 18.1013 OBSTETRICS AND GYNECOLOGY
- 18.1014 OPHTHALMOLOGY
- 18.1015 ORTHODONTIC SURGERY
- 18.1016 ORTHOPEDIC
- 18.1017 OTORHINOLARYNGOLOGY/ OTOLARYNGOLOGY
- 18.1019 PEDIATRICS
- 18.1020 PHYSICAL MEDICINE & REHABILITATION
- 18.1021 PLASTIC SURGERY
- 18.1022 PREVENTIVE MEDICINE
- 18.1023 PSYCHIATRY
- 18.1024 NEUROLOGY
- 18.1025 RADIOLOGY
- 18.1026 SURGERY
- 18.1027 THORACIC SURGERY
- 18.1028 UROLOGY
- 18.1099 MEDICINE, OTHER
- 18.1106 PSYCHIATRY/MENTAL HEALTH
- 18.12 OPTOMETRY
- 18.13 OSTEOPATHIC MEDICINE
- 18.14 PHARMACY
- 18.15 PODIATRY
- 18.24 VETERINARY MEDICINE
- 20.0102 CHILD DEVELOPMENT CARE AND GUIDANCE
- 26.0605 ENDOCRINOLOGY
- 26.0608 NEUROSCIENCES
- 26.0611 RADIOBIOLOGY

54 OTHER LIFE SCIENCES
- 17.0807 OCCUPATIONAL THERAPY
- 17.0813 PHYSICAL THERAPY
- 17.0821 SPEECH-LANGUAGE PATH/AUDIOLOGY
- 17.0899 REHABILITATION SERVICES, OTHER
- 17.99 ALLIED HEALTH, OTHER
- 18.01 AUDIOLOGY AND SPEECH PATHOLOGY
- 18.07 HEALTH SCIENCES ADMINISTRATION
- 18.09 MEDICAL LABORATORY
- 18.11 NURSING
- 18.22 PUBLIC HEALTH LABORATORY SCIENCE
- 18.99 HEALTH SCIENCES, OTHER

60 PSYCHOLOGY
- 13.08 SCHOOL PSYCHOLOGY
- 17.0801 ART THERAPY
- 42 PSYCHOLOGY

70 SOCIAL SCIENCES, TOTAL

71 ECONOMICS
- 01.0103 AGRICULTURAL ECONOMICS
- 06.05 BUSINESS ECONOMICS
- 45.06 ECONOMICS

72 POLITICAL SCIENCE
- 44.01 PUBLIC AFFAIRS, GENERAL
- 44.03 INTERNATIONAL PUBLIC SERVICE
- 44.04 PUBLIC ADMINISTRATION
- 44.99 PUBLIC AFFAIRS, GENERAL
- 44.05 PUBLIC POLICY STUDIES
- 45.09 INTERNATIONAL RELATIONS
- 45.10 POLITICAL SCIENCE & GOVERNMENT

73 SOCIOLOGY
- 18.16 POPULATION & FAMILY PLANNING
- 45.05 DEMOGRAPHY
- 45.11 SOCIOLOGY

74 OTHER SOCIAL SCIENCES
- 04.03 CITY, COMMUNITY & REG/PLANNING
- 05 AREAS AND ETHNIC STUDIES
- 06.06 HUMAN RESOURCES DEVELOPMENT
- 06.15 ORGANIZATIONAL BEHAVIOR
- 14.26 SURVEYING & MAPPING SCIENCES
- 42.12 PSYCHOLINGUISTICS
- 43.01 CRIMINAL JUSTICE
- 44.02 COMMUNITY SERVICES
- 44.07 SOCIAL WORK
- 45.01 SOCIAL SCIENCES, GENERAL
- 45.02 ANTHROPOLOGY
- 45.03 ARCHEOLOGY
- 45.04 CRIMINOLOGY
- 45.07 GEOGRAPHY
- 45.12 URBAN STUDIES
- 45.99 SOCIAL SCIENCES, OTHER

80 OTHER SCIENCES, TOTAL (not elsewhere classified)

other science resources publications

Science Resources Studies Highlights

R&D Funds

	NSF No.	Price
Real Growth in Federal R&D Funds Estimated at 12% in 1984—Largest Increase Since Midsixties	84-302	-----
Dollar Value of U.S. R&D Expenditures Overseas Declined in 1982	83-329	-----
Companies Plan Increases in R&D Spending Through 1984	83-327	-----
Defense, General Science, and Transportation Functions Lead 1984 Federal R&D Growth	83-323	-----
Defense and Economy Major Factors in 7% Real Growth in National R&D Expenditures in 1984	83-316	-----
Company and Federal Support Produce 17% Industrial R&D Spending Increase in 1981	83-313	-----

S/E Personnel

Industry Reports Shortages of Scientists and Engineers Down Substantially From 1982 to 1983	84-303	-----
1982 Doctorate Production Stable in Science and Engineering Fields, But Down in Science and Mathematics Education	83-330	-----
No Change in Science and Engineering Student Quality Seen by 60% of Academic Officials: At Least 25% Perceive Improvement	83-322	-----
Growth in Neuroscience May Be Leveling Off	83-314	-----

Detailed Statistical Tables

R&D Funds

Federal Funds for Research and Development, Fiscal Years 1982, 1983, and 1984, Volume XXXII	83-319	-----
Research and Development in Industry, 1981. Funds, 1981; Scientists and Engineers, January 1982	83-325	-----

S/E Personnel

Science and Engineering Doctorates: 1960-82	83-328	In press
Scientists, Engineers, and Technicians in Manufacturing and Nonmanufacturing Industries: 1980-81	83-324	In press
Characteristics of Doctoral Scientists and Engineers in the United States: 1981	82-332	-----
U.S. Scientists and Engineers: 1980	82-314	-----
Characteristics of Recent Science/ Engineering Graduates: 1980	82-313	-----

Reports

R&D Funds

Trends to 1982 in Industrial Basic Research	83-302	$3.50
Federal R&D Funding for Energy, Fiscal Years 1971-83	83-301	-----
1990 R&D Funding Projections	82-315	$3.50

S/E Personnel

Projected Response of the Science, Engineering, and Technical Labor Market to Defense and Nondefense Needs: 1982-84	84-304	In press
Women and Minorities in Science and Engineering	84-300	-----
Changing Employment Patterns of Scientists, Engineers, and Technicians in Manufacturing Industries: 1977-80	82-331	-----
Science and Engineering Degrees: 1950-80. A Source Book	82-307	$5.00
Activities of Science and Engineering Faculty in Universities and 4-Year Colleges: 1978/79	82-323	-----
Young and Senior Science and Engineering Faculty: 1980	82-319	-----
Foreign Participation in U.S. Science and Engineering Higher Education and Labor Markets	82-316	$4.50
Science and Engineering Employment: 1970-80	82-310	$2.75

Composite

National Patterns of Science and Technology Resources: 1984	84-311	In press
Science and Technology Data Book	83-318	-----
Science and Engineering Personnel: A National Overview	82-318	$5.00

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